DOCUMENT RESUME

ED 096 888 HE 005 915

TITLE	Program Budgeting: Universities.
INSTITUTION	Ohio Board of Regents, Columbus. Management Improvement Program.
PUB DATE	1 Jul 73
NOTE	94p.
AVAILABLE FROM	Ohio Board of Regents, 88 E. Broad Street, Suite 700, Columbus, Ohio 43215 ($3.00)
EDRS PRICE	MF-$0.75 HC-$4.20 PLUS POSTAGE
DESCRIPTORS	Budgeting; Educational Finance; *Higher Education; Management; Manuals; *Program Budgeting; *Program Planning; *Statewide Planning; *Universities
IDENTIFIERS	*Ohio

ABSTRACT

This manual recognizes there is a wide spectrum of budgeting practices in today's colleges and universities. In particular, universities in Ohio are at different stages in their utilization of program budgeting principles and also have different needs. Thus, this program budgeting manual was written to meet the specific needs of universities in Ohio. But the basic principles in this manual should be of value to other public and private colleges and universities throughout the United States. Of special significance in this manual is the belief that an effective budgeting process requires the development of both an organizational budget and a program budget. Organizational and program budgets respectively fulfill particular needs of management and are thus vital for the effective management of resources. Following the introductory section topics covered include: steps in developing a program budgeting system and implementing a program budget. Appendixes include an example of an organizational line item budget and a program budget; WICHE program structure; budget and preparation models; program budget profiles, sample budget cycle, and timetables. A bibliography, glossary, and exhibits are included. (Author/PG)

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PROGRAM BUDGETING

Universities

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Management Improvement Program
Ohio Board of Regents

MIP

#E 005 915

Prepared by a task force of university representatives with direction and staff assistance provided by the Ohio Board of Regents

July 1, 1973

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This book represents one of five manuals prepared under the direction of the Ohio Board of Regents Management Improvement Program which the Management Division has arranged to distribute. We feel that the recommendations and procedures contained in these manuals are of enough general interest and applicability to warrant sending them to persons outside the Ohio public universities.

The Management Improvement Program was established by the Ohio State Legislature in December 1971 to consider means of improving the management of the state-supported universities and junior colleges. Gerald L. Shawhan was the Director of the Program.

In addition to the five manuals which the Management Division is distributing, five others on the same subjects have been prepared covering the public two-year colleges.

Foreword

This manual is one of ten completed in the Management Improvement Program (MIP) during the 1971-73 biennium. In this project, Ohio's 34 public universities and colleges, in an effort directed and staffed by the Ohio Board of Regents, have developed manuals of management practices concerning institutional planning, program budgeting, personnel management, computer services, and schedule building and registration. The project is unique in at least two ways — the improvement of internal management processes is the objective of the program, and the method of undertaking it was mandated by the Ohio General Assembly to be participatory.

House Bill 475, the appropriation act passed by the 109th General Assembly in December, 1971, created the MIP, directing that it be conducted by and within the system of state-assisted universities and colleges under the direction of the Ohio Board of Regents. This legislative action culminated more than four years of active interest by the legislators in improving the management practices of these schools.

In 1967, a joint House-Senate committee, called the Education Review Committee, was created by the General Assembly. Included in its charge was that of monitoring the management practices of the public universities in Ohio. This committee, in conjunction with the Department of Finance, hired a management consulting firm to perform a management study of the nonacademic areas of the 12 public universities and of the state system as a whole. The report of the consultants, published in December, 1969, made about 100 specific recommendations for management improvement. The Education Review Committee remained interested in appropriate follow-up of the study. With the aid of another individual consultant, language was introduced in the General Assembly which was included in the appropriation for the biennium. Some experts of the actual language are as follows:

> "The purpose—shall be to design, test, and install, in each such institution, the most efficient feasible internal organization, planning process, financial management, budget preparation and management, auxiliary services management, space management and plant operation, purchasing procedures and inventory control procedures, student data systems including admission procedures and student registration procedures, management reporting systems, data processing, personnel management, and library management.
>
> Each project is to be conducted in cooperation with a committee of representatives from state assisted colleges and universities.
>
> The director of each project is to be a staff specialist in the employ of the Board of Regents.

FOREWORD

For guidance in the conduct of each Management Improvement Project, the participants are to consult the findings as set forth in the 1969 Consultant's Report."

Primarily because the appropriation to carry out the program was not commensurate with the depth and breadth of the tasks spelled out in House Bill 475, the scope of the Management Improvement Program in this biennium was restricted to five central areas (Institutional Planning, Program Budgeting, Computer Services, Schedule Building and Registration, and Personnel Management). In addition, the original mandate of H. B. 475 was "to design, test and install the most efficient, feasible procedures" in each of the areas in each of the institutions. Because of the limited time, only 18 months, and the participatory method of undertaking the project prescribed in the bill, the immediate objective set forth in the past biennium was the generation of a manual of best practices in each of the five areas.

As stipulated by the legislature, task forces of institutional representatives were appointed and actively participated in the process. Ten such groups were formed—five for the universities and five for the community and technical colleges. Each task force consisted of representatives qualified in the particular subject matter under study. Each group had at least one member from every school. In total, more than 175 college and university personnel from all over the state were directly involved, as well as many others at each institution through formal and informal contact with the appointed members. Each task force met 8-10 times in the year and a half devoted to the project.

As specified in the legislative bill, the Ohio Board of Regents provided direction and staff for the project. Four professional management analysts, two secretaries, and limited part-time analytical and clerical help constituted the manpower to fulfill that charge.

Three major phases constituted the project:

1. **Inventory the current practices.**
   This phase involved compiling the existing practices and procedures in the five areas at each state-assisted school in Ohio. Approximately five months were devoted to this task.
2. **Determine the issues to be addressed in the manuals.**
   Three months were devoted to discussions about the specific issues to be covered.
3. **Write manuals.**
   Nine months were devoted to writing the manuals. This phase included extensive and detailed discussions by the task forces, much drafting and redrafting by the staff and task force members, and finally concurrence with the manual contents.

The Manuals are practical, informative and useful. For the most part, all of the manuals contain general guidelines, principles and broad recommendations for good management within the universities and colleges, rather than detailed and specific procedures. They also include recommendations which call for direct action by the Board of Regents. Basically, the recommendations seek more effective internal management and accountability, while recognizing the autonomy of each school.

Literally hundreds of people have been involved in this project. All members of the Ohio Board of Regents staff, especially former Chancellor John Millett, and Vice Chancellor William Coulter, have made significant contributions to the entire project. The Regents were particularly fortunate in gathering together the staff for the MIP. Dr. Ronald Lykins, Mr. Lawrence O'Brien, Mr. Douglas Smith, and Dr. Joseph Tucker brought with them considerable experience and knowledge from administrative and academic aspects of colleges and universities, as well as from private industry. Their perseverence and leadership in directing and staffing the task forces were superb. Special thanks must be given to Mrs. Betty Dials, the secretary for the program, who was an inspiration to all.

Many agencies in other states, including colleges, universities and state systems, were contacted and in some cases contributed helpful data to the program. Applicable professional organizations were also contacted and did help.

But more than any other, however, the contributions made by the individual task force members must be mentioned and expanded upon. The more than 175 personnel from the 34 colleges and universities who were the official representatives for their schools contributed long hours, data, ideas, constructive criticisms, changes, and encouragement. They not only worked collectively in the task forces, but also were required to spend considerable time on the respective campuses gathering data together and communicating with many campus constituencies to make sure that their schools were fairly and adequately represented.

The university program budgeting task force members were:

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FOREWORD

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Ohio Board of Regents (Task Force Director)

Without their sincere participation, this manual would not exist.

Gerald L. Shawhan, Director
Management Improvement Program

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Preface

Universities in Ohio represent a multi-million dollar educational enterprise. The need to wisely and justly allocate these resources in a responsible manner has never been greater. The universities in Ohio recognize this need and are striving to improve the budgeting process.

This program budgeting manual was developed and written with seven purposes in mind:

First, to provide educational administrators with an organized and logical discussion of the program budgeting process. Second, to provide a means of sharing the effective budgeting practices which have been developed at different universities. Third, to provide practical and useful ideas which could be used to improve budgeting practices at individual institutions. Fourth, to provide criteria which can be utilized by individual institutions to evaluate and improve their present budgeting systems. Fifth, to provide reasonable guidelines for the process of estimating and allocating institutional resources relative to a given set of programs. Sixth, to provide a comprehensive glossary of budgeting terms, and seventh, to provide a bibliography of program budgeting literature.

This manual recognizes there is a wide spectrum of budgeting practices in today's colleges and universities. In particular, universities in Ohio are at different stages in their utilization of program budgeting principles and also have different needs. Thus, this program budgeting manual was written to meet the specific needs of universities in Ohio. But the basic principles in this manual should be a value to other public and private colleges and universities throughout the United States.

Of special significance in this manual is the belief that an effective budgeting process requires the development of both an organizational budget and a program budget. Organizational and program budgets respectively fulfill particular needs of management and are thus vital for the effective management of resources.

It should be emphasized that an effective program budgeting process requires a commitment of space, money, people and time. It requires a commitment of the Ohio Board of Regents and the Legislature to work with individual universities to improve the budgeting process and to help provide the necessary financial support. However, most of all, successful program budgeting requires a commitment of university presidents and top level administrators.

The development of the manual has been characterized by a spirit of cooperation and a commitment of all the universities to improve the budgeting process. Credit for this project must be given to all the University Task Force representatives who devoted their time and energy to make the manual a reality.

Ronald G. Lykins, Director
University Program
Budgeting Task Force

PROGRAM BUDGETING

Universities

13/17

1. Introduction

Budgeting Environment

The fact that public and private institutions of higher education are having serious financial problems which will continue throughout the seventies, is well documented in the recent studies of the Carnegie Commission and others. Increasing costs, decreasing enrollments, decreasing federal support of research and a growing public disenchantment concerning the process and outcomes of higher education are some of the factors leading to these problems.

Serious questions regarding the balance between education, in the broad intellectual sense, and training, in the sense of job preparedness, are being raised by students, parents, legislators and the public at large. For this reason, there is a growing concern about the instructional programs of higher education; what they are, what they cost and what they produce.

As federal sponsorship of research diminishes, and as universities are called upon to provide more non-degree credit public service programs, universities must also re-evaluate the balance between instructional, research and public service programs they provide.

State-assisted universities in Ohio are faced with the immediate problem of balancing uncertain financial resources with ongoing committments. Beyond this there is the program management problem of developing longer range program changes that will improve and preserve the financial health of the institution.

Organizationally, a university is composed of colleges which in turn are composed of departments based on academic discipline specialties, each staffed with a faculty collectively responsible for teaching, research, public services, planning and administration. In addition, supporting departments such as libraries, audio visual aids, maintenance, etc. also exist in the organization. Programmatically however, a degree seeking student, a research project sponsor or public service participant may receive services from all of these organizational units. In that sense, many departments contribute to one program and similarly any one department is likely to be involved in more than one program.

For this reason, budgeting in the university environment must meet both organizational unit and program management needs. (See Appendix 1 for an example of an organizational line item budget and a program budget).

Goals and Objectives of Budgeting

The goals of budgeting are to meet both the program and organizational needs of an educational institution. These goals reinforce the need for educa-

tional administrators to 1) plan in advance for the acquisition and expenditure of money 2) allocate money, and 3) control the expenditure of money. In a university this means, the following organizational and program objectives:

A. Organizational Management Objectives

1. Assuring that systematic and rational consideration has been given to the expected acquisition and expenditures of monies.
2. Assuring an organizational budget plan has been developed and approved for the institution.
3. Assuring that the organizational budget is allocated in accordance with that plan.
4. Providing management tools for monitoring income by source of income.
5. Providing management tools for monitoring expenditures by organizational units.
6. Providing accountability for expenditures to the various sponsors, users and constituents of the university (governmental, agencies, taxpayers, students, faculty, alumni, etc.).

B. Program Management Objectives

1. Assuring that there is a link between the program planning and management process and the organizational management process.
2. Providing program income forecasts and cost analysis to aid the planning process in identifying and ranking programs in terms of institutional priorities.
3. Providing methods for translating program plans into organizational plans.
4. Providing a vehicle for institutions to describe their financial requirements in programmatic terms.
5. Providing management tools for evaluating the income, cost and effectiveness of programs.
6. Providing accountability for costs and benefits of various programs to the sponsors, users and constituencies of the university.

Program Budgeting Debate

With the university environment for budgeting and the organizational and and program management objectives of budgeting, any debate concerning the merits of program budgeting versus object of expense budgeting becomes moot. In a university, budgeting must encompass both organizational unit management objectives and program management objectives. Therefore, it is not a case of replacing a departmental organization with a programmatic organization. It is neither a case of replacing a departmental budget that gives authority to hire people and acquire supplies, equipment and services with a budget that gives authority to spend X dollars for a degree. The traditional departmental organization object of expense budget provides the implementation vehicle and base level expenditure control required for survival, whereas the program budget provides a vehicle for establishing and controlling the long-range direction of the organization. Both kinds of budgets are necessary.

Program Budgeting System Defined

In this manual a program budgeting system is defined as a financial planning, allocation, evaluation and control system that meets both the

organizational and program needs of the university. A program budget plan is a product of the planning process, and is based upon expected program inputs, outputs, income and costs of meeting the program priorities of the institution. An organizational budget plan is the translation of program expectations into departmental resource needs for personnel, operating and equipment monies.

Steps in Developing an Organizational and Program Budget

Both organizational and program budgets rely on the identification of a program structure and upon the selection of goals and objectives which are developed in the planning process. The analytic role in that process is discussed in the Planning Manual. The steps are:

A. Organizational Budgets

1. Establish a clear identification and description of all funds with regard to source, purpose, timing, responsibility for acquisition and restrictions.
2. Develop a structure for relating all sources of funds to budgetary spending authority (e.g., fund expenditure accounts).
3. Develop a clear outline of departmental, collegiate and divisional fiscal responsibility for each expenditure account and, where appropriate, for income generation.
4. Develop analytical linkages that assure program income generation and expenditure allocation decision can be translated into departmental organizational budgets.
5. Monitor and control income and expenditures through the final accounting system.

B. Program Budgets

It is assumed that 1) a program structure and 2) goals and objectives have been identified as a part of the planning process, and that the budget office has played a participative and analytical role in that process. Other steps include:

3. **Identify inputs and outputs for programs.**
4. **Develop a relationship between organizational expenditures and program costs.**
5. **Develop methods for projecting income based on program output demand changes.**
6. **Calculate resource requirements of programs and compare to available resources.**
7. **Consider alternatives and priorities, and establish resource allocations within available resources.**
8. **Translate allocation decisions into departmental organizational budgets (See A.4 above).**
9. **Evaluate, monitor and control program changes from a long-range standpoint by comparing program cost and quality experience with original expectations.**

Because organizational budgets are generally understood better than program budgets, the primary, but not exclusive focus of this manual is on the preparation of a program budget.

2. Steps in Developing a Program Budgeting System

Developing an Organizational Budget System

A successful program budgeting system requires both organizational and program budget components. Although this manual focuses principally on the program budget component, a few comments on the five steps (as listed on p. 17) of developing an organizational budgeting system are in order.

Identify all Sources of Funds—First step

In many educational institutions, the traditional budgeting process is almost entirely concentrated on the current operating budget. This particular budget is generally concerned first with the instructional and general activities of the University (major income sources defined as state subsidy and student fees).

When this type of budgeting is followed, other areas within the Current Income Fund Group may be slighted. These are (1) Organized Research (major income sources defined as private gifts and federal grants; (2) Public Services (major sources of income being private gifts, government grants and workshops); (3) Auxiliary Enterprises (major income sources being student charges) and (4) Student Aid (major sources being private gifts and government grants).

These four areas will often comprise 30 to 40% of current income in the General Fund. This, of course, means that several million dollars may, at times, not be given adequate consideration in the budgeting process.

In addition to areas within the Current Fund Group, there are other funds which are sometimes given minimum attention, e.g., loan funds, endowment funds and plant funds. These funds, too, generally represent several million dollars.

Recognizing the need for a good program budget based on stated goals and objectives, **it is recommended that the budgeting process incorporate all applicable fund groups of the university.** This recommendation does not necessarily indicate that a single document would attempt to incorporate all of the fund groups. For example, it may not be feasible or desirable to incorporate Auxiliary Enterprises with Instructional Program. This recommendation does indicate, however, that a program budgeting process must give due consideration to all applicable funds of the University and not exclusively to the Current Income, Instructional and General Funds.

Each fund source should be identified with regard to source purpose, timing, responsibility and restrictions. A manual of fund sources, maintained by the budget office, is a helpful method of achieving this step.

STEPS IN DEVELOPING A PROGRAM BUDGETING SYSTEM

Relate Funds to Expenditure Accounts—Second step

Because expenditure accounts can be funded by one or more sources of funds, **it is important to clearly identify the linkage between expenditure accounts and sources of funds.** For example, a current funds instructional and general budget is frequently funded by pooling state, student fee, unrestricted endowment, research overhead and other miscellaneous sources of income. The fund sources making up this budget should be clearly identified. In other cases, expenditure accounts may be identical to one explicit fund source such as a federal grant or departmental earnings rotary. A more sophisticated linkage can exist where a general budget for a department is augmented based on the expectation of a level of income to be generated from a specific activity.

For example, in a departmental earning situation (e.g., sales of publications), authority to spend from general funds may be granted with the expectation that earnings will be forthcoming in a certain amount. Here the earnings account may be set up as an "income only" account and performance on earnings monitored by the budget office in accordance with the original agreement. A manual of expenditure accounts indicating the fund sources for these accounts and the responsibility for expending (see departmental responsibility below) can be used to achieve this step. Again this manual should be a primary responsibility of the budget office with a close linkage, of course, to the accounting office.

Develop Clear-cut Departmental Responsibility Third step

It is important that each expenditure account be identified to establish the lowest level of authority for authorizing expenditures from that account. This authority should receive all reports of activity in the account, and should be regarded as the fiscal officer for the account. In most cases the fiscal authority will also be the locus for expenditure from an accounting standpoint. For example, the department of history is likely to have an operating budget for which the chairman is fiscally responsible. Expenditures from that account would properly be assigned to the department of history.

However, the fiscal authority and locus of expenditure may not be identical in some cases. For example, the dean of humanities may have an equipment budget which he does not choose to sub-allocate to the departments in his college. In this case, the dean may authorize some equipment for the department of history. Here the budgetary system should reflect the fiscal responsibility at the dean's level and the accounting system should reflect the expenditure as being located in favor of the department of history.

There are a variety of ways to handle this problem from a systems standpoint, one of which is to establish a single fiscally responsible department for each expenditure account with one or more "departments authorized to spend" from this account. Again, the manual of fund and expenditure accounts should describe this information.

Translate Program Plans into Departmental Budgets—Fourth step

The relationship between departmental expenditure budgets and ultimate program costs is an analytical one in most cases. For example, a faculty member's salary expenditure can contribute to the cost of a variety of instructional, research and public service programs. Techniques for developing the relationship between departmental expenditures and program costs are discussed in detail in subsequent sections.

However, an important criteria for the design of an organizational budget system is that the analytical translations made in arriving at program costs be maintained to ensure that program cost decisions can be translated back into departmental expenditure projections.

Monitor Income and Expenditures—Fifth step

The most appropriate short-range control and evaluation of income and expenditures is through the fund accounting system.

In monitoring income, it is of utmost importance to identify responsibility for each source of income. All sources of income need to be monitored, but it is especially important to scrutinize key areas. For most universities these would be (a) enrollments by numbers and program mxture; (b) state subsidy as affected by Ohio Board of Regents policy and legislative decisions; (c) federal grants and appropriations—other than student aid; (d) auxiliary enterprises; (e) rotary accounts; (f) student aid; (g) capital appropriations.

Each university should clearly identify key sources of income and establish a system to assure the governing board of the university that reliable forecasts can be made. Also, it is vitally important that provisions be made for timely warnings to the president when actual income is not meeting or exceeding the projection, and the reason for the deviation. This system should allow sufficient time for the president or chief financial officer to make necessary budget adjustments.

In addition to monitoring income, it is vital to monitor expenditures. Thus, a system of monitoring expenditures must be established. This requires that responsibility be identified for controlling budgets.

Each administrator with budgetary authority should be responsible for a balanced budget at the end of the year. Budget/spending variances should have official approval from the appropriate officers.

A timely report system should be developed by the budget and accounting offices to keep the fiscal officers informed of budget/spending patterns within the university.

Each administrator who has budgetary responsibility should receive a timely monthly budget report. Key expenditure items should be identified and scrutinized closely. For most universities, key expenditures are salaries and benefits. Thus a system to closely control the additions and replacement of personnel is vital to controlling budgets.

Developing the Program Budget System

Developing the program budget component of the program budgeting system involves nine steps. They are as follows:

1. Identify goals and objectives.
2. Identify program structure.
3. Identify program inputs and outputs.
4. Develop a relationship between organizational expenditures and program costs.
5. Develop methods for projecting income based on programs output.
6. Calculate resource requirements of programs and compare to available resources.

7. Consider alternatives and priorities and establish resource allocations within available resources.
8. Translate allocation decisions into departmental organizational budgets.
9. Evaluate, monitor and control programs by comparing program cost and quality experience with original expectations.

Identify Goals and Objectives

The first step in developing a program budget is that of identifying goals and objectives in the context of outputs.

Goals and objectives are important because they:

1. Are the necessary first step in establishing the direction in which a unit should proceed.
2. Tend to require a rational study and approach for managing a unit.
3. Provide a means of selecting priority and alternative programs on a basis other than dollars and cents.
4. Provide a means of evaluation.
5. Provide targets to which all parties relate.

Goals are defined as the desired results set for long periods of time (e.g., ten years). Goals and objectives are often used interchangeably. In this manual, however, they differ with regard to time frame, measurability and sequence. Goals are long-run and the end results; objectives are short-range and are steps in the direction of attaining a goal. Objectives are designated as the measurable attainments or desired results set for programs over a short period of time (e.g., one year). Objectives are generally regarded as progressive steps toward a goal. Thus, a series of objectives should lead to one's goal. Goals must be established before objectives are specified.

To be most meaningful, goals and objectives should be specified in terms that deal with stated outputs. Specifically, the goals and objectives should relate to that which is being produced.

Requirements of Goals

The requirements of a goal are that it:

1. Be in agreement with the institution's philosophy,
2. Be compatible with the aims and mission of the institution,
3. Be divisible into objectives,
4. Be feasible,
5. Reflect predictable consequences, and
6. Have a long-term time frame for completion.

Requirements of Objectives

The requirements of an objective are that it:

1. Relate to a goal,
2. Be measurable or observable,
3. Identify the specific group to which the objective applies, i.e., the target group,
4. Specify the method of measurement,
5. Specify the criteria for evaluation,
6. State the conditions under which measurement of the achievement of the objective is to be accomplished, and
7. State the time period for achievement.

To be most useful, goals and objectives should be established in writing.

Guidelines in Developing Goals and Objectives

A detailed discussion of establishing goals and objectives is presented in the MIP planning manual. Specifically, a technique for developing goals and objectives is offered as a guideline for administrators in Appendix 1 of the planning manual. Establishing goals and objectives is a difficult, but vital step in developing a program budget. One should not be discouraged if initial attempts to develop and agree upon goals and objectives is less than satisfactory. Through repeated efforts, coupled with an educational program, the goals and objectives will become more useful and meaningful.

Goals and Objectives Recommendations

As related to developing a program budget, the following policies are recommended

1. **Every budgetary unit should have stated goals and objectives, relative to services performed or outputs produced with appropriate indices of performance.**
2. **Administrative units should not review and consider budgets of a reporting department or division until that particular organizational unit has prepared:**
   a. **A statement of goals and objectives.**
   b. **A description of how the goals and objectives were developed. Who was involved? How?**
   c. **A statement of how often goals and objectives are updated and evaluated.**
   d. **If applicable, an evaluation of past goals and objectives.**
3. **There should be a systematic evaluation of institution-wide goals and objectives before resources are calculated and allocated in a budgeting process.**
4. **The governing board of the institution should have an assurance from the president that goals and objectives have been stated for each budgeting unit. The president of each university should designate chief officers, e.g., academic vice president, director of planning, director for business and finance, etc. to be responsible in an overall sense for ensuring that goals and objectives are in fact being set in support of the program budgeting process.**

Identifying Program Structure

It is important that one or more program structures be identified in developing a program budget.

There appears to be general agreement on the definitions of a program. The following statements are representative:

(1) Robert T. Sandin asserts that a program is a group of interdependent coordinated activities conducted by an operating unit, which mutually contribute to the realization of a common objective.

(2) A program is defined, in **Guidelines for Implementing a Planning-Programming-Budgeting System,** as a collection of related activities which are organized to contribute to the accomplishment of specific goals and objectives of the organization.

(3) WICHE-NCHEMS uses the term "program" to identify the activities and resources contributing to the education of a group of students pursuing a common curricular path.

(4) In the MIP planning manual, a program is a collection of related activities which are organized to contribute to the accomplishment of specific goals and objectives in a plan.

All state-assisted universities currently submit a program budget to the Ohio Board of Regents. This structure is as follows:

1.0 Departmental Instruction and Research
- 1.1 General Studies
- 1.2 Technical Education
- 1.3 Baccalaureate General
- 1.4 Baccalaureate Professional
- 1.5 Master's Programs
- 1.6 Graduate Professional
- 1.7 Doctor's Programs
- 1.8 Medical Programs

2.0 Organized Research
3.0 Organized Public Services
4.0 Auxiliary Services
5.0 Student Aid

Within the above program structure, institutions in Ohio submit personnel, space, student and financial inventory and activity data in organizational format for monitoring purposes. The relationship of the Ohio Board of Regents Program Classification and the Organizational Units is represented in Exhibit 2.1.

Perhaps the most widely known and accepted program structure is that of NCHEMS/WICHE. This structure appears in Exhibit 2.2 and is briefly outlined in Appendix 2. A detailed discussion of the NCHEMS/WICHE structure is contained in **Technical Report 27—Program Classification Structure**, published by NCHEMS. The relationship of program to organization is discussed in pages 27 to 30 of that report. Essentially departments and accounts in the traditional sense are treated as program elements in the NCHEMS system, and analytical mappings of one to one, many to one, and one to many are expected to link these elements to the program classification structures (PCS).

A description of the relationship of organizational and program structures as they pertain to instructional program budgeting is discussed in the June, 1972, publication of NCHEMS/WICHE titled "Instructional Program Budgeting in Higher Education" by David G. Clark and Robert A. Huff.

Because a program structure is an analytical structure, a university may clearly want to adopt an internal program structure that meets the unique goals and objectives of the institution. It will need to be able, however, to translate this structure into external program structures when required. For budget systems the principal impact of program structure is the assurance that translation from organization to program and from program to organization is possible.

The fact that this linkage was not maintained throughout the current Ohio Board of Regents' Uniform Information System (UIS) is the primary reason that the excellent products of the UIS have not been of maximum value to the individual institutions.

EXHIBIT 2.1

Ohio Board of Regents Program versus Organizational Structure

Organizational Units Classified as:	Programs Classified As:					
	Instruction* & Dept. Research	Organized Research	Public Service	Auxiliary Services	Student Aid	Total
Departmental Instr. & Research	X	O	O	O	O	X
Instructional Services	X	O	O	O	O	X
Libraries	X	O	O	O	O	X
Student Services	X	O	O	O	O	X
General Expense	X	O	O	O	O	X
Administration	X	X	X	X	O	X
Physical Plant	X	X	X	X	O	X
Public Service Units	R	O	X	O	O	X
Research Units	R	X	O	O	O	X
Student Aid	R	O	O	O	X	X
Auxiliary Services	R	O	O	X	O	X
Total	X	X	X	X	X	X

*Instruction is further stratified into 8 levels:

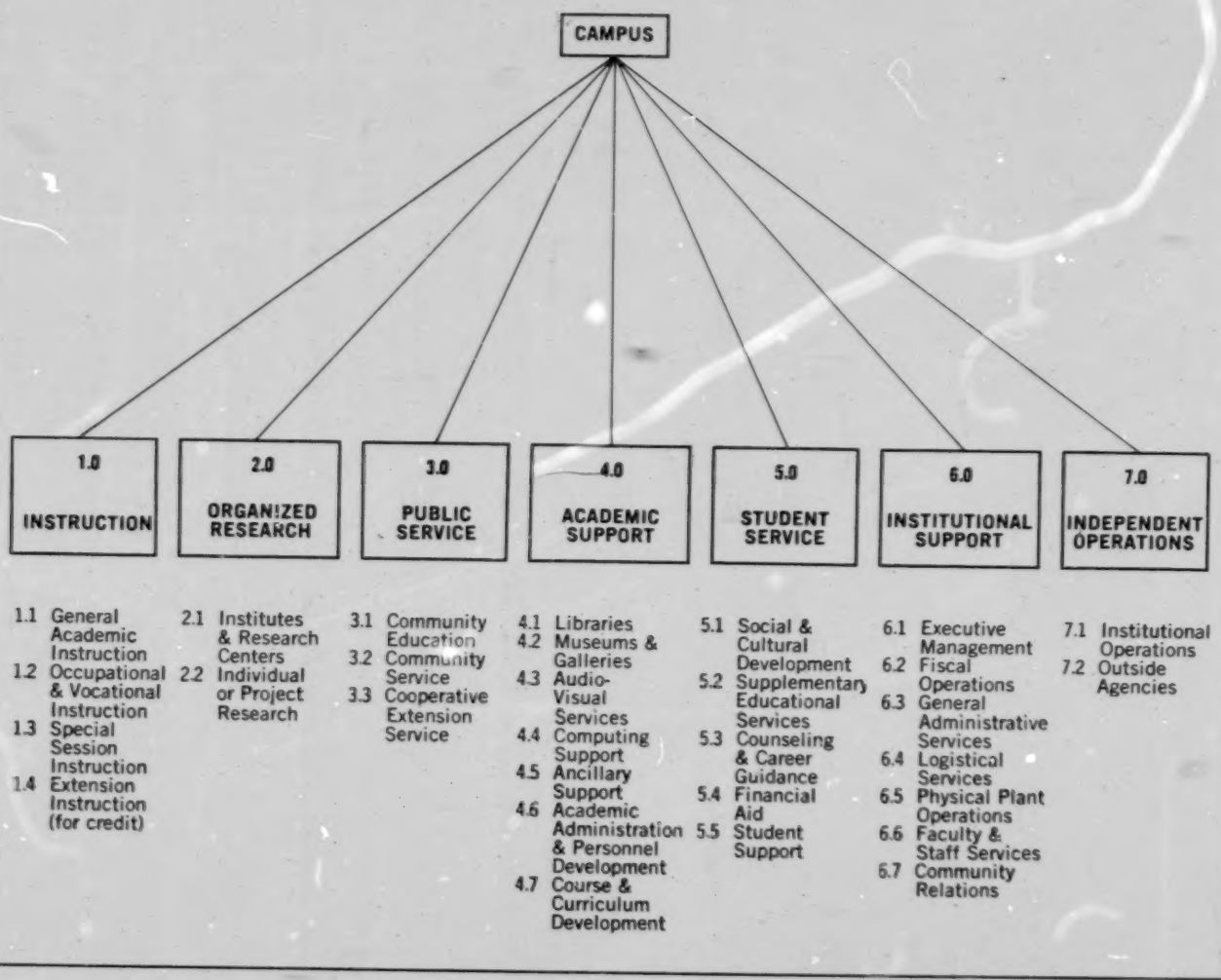
1. General Studies
2. Technical Education
3. Baccalaureate General
4. Baccalaureate Professional
5. Masters
6. Graduate
7. Ph.D.
8. Medical

CODE—Indicates allocation of expenditures to programs where

X = an allocation is made based on expenditures
O = no allocation is made
R = a residual allocation is made based on net "cost" to I & G budgets.

EXHIBIT 2.2

Organization of the Program Classification Structure



Although the decision regarding an internal program structure is more appropriately a part of the planning process, two recommendations certainly appear to be in the domain of budgeting:

1. **The Ohio Board of Regents should move to modify its Uniform Information System and Resource Allocation Procedures to ensure they can be used by institutions to produce program classification system resource data for their own organization units.** A Uniform Information System that is equally useful at individual institutions and at the state and national level would be an extremely valuable tool for educational administrators.
2. **It is recommended that a Planning Task Force be established to review the following proposed program structure:**

I. Primary Programs

1.0 Instruction

- **1.1 General Studies**
- **1.2 Technical Education**
- **1.3 Baccalaureate General**
- **1.4 Baccalaureate Professional**
- **1.5 Master's Program**
- **1.6 Graduate Professional**
- **1.7 Doctor's Programs**
- **1.8 Medical Programs**

2.0 Organized Research

- **2.1 Institutes and Research Centers**
- **2.2 Individual or Project Research**

3.0 Public Service

- **3.1 Departmental Continuing Education**
- **3.2 Organized Extension Continuing Education**
- **3.3 Organized Extension Community Service**
- **3.4 Campus Community Service**
- **3.5 Agriculture Extension Service**

II. Support Programs

4.0 Academic Support

- **4.1 Libraries**
- **4.2 Museums and Galleries**
- **4.3 Audio/Visual Services**
- **4.4 Computing Support**
- **4.5 Auxiliary Support**

5.0 Student Services

- **5.1 Social and Cultural Development**
- **5.2 Supplementary Educational Service**
- **5.3 Counseling and Career Guidance**
- **5.4 Financial Aid**
- **5.5 Student Support**

6.0 Institutional Support
- **6.1 Executive Management**
- **6.2 Financial Operations**
- **6.3 General Administrative Services**
- **6.4 Logistical Services**
- **6.5 Physical Plant Operations**
- **6.6 Faculty and Staff Services**
- **6.7 Community Relations**

7.0 Independent Operations
- **7.1 Institutional Operations**
- **7.2 Outside Agencies**

Program Management

Inherent in a program classification system is the need for program management. Program management is defined as the coordination and supervision of programs. It frequently differs from departmental management, which has the responsibility for coordinating people, space and operating resources in the organizational units. Two clear examples of program managers are currently evident in most universities — the dean of a graduate school and the chief research officer (e.g., vice provost for research). In these two cases, the individuals are responsible for the coordination, development, articulation, evaluative and policy considerations for programs (e.g., graduate study, research, but do not have fiscal control of the specific faculty assigned to these programs.

The dean of a college is also a program manager with regard to responsibility for students who seek a degree through the auspices of a particular college. For example, a dean of an education college has the responsibility for ensuring that courses from other colleges are available to meet the needs of students majoring in education. Here again, the dean, as program manager, does not have direct responsibility for the faculty who teach courses outside the college of education but does have coordinative, development, articulation, evaluative and policy concerns.

Program budgeting requires that more formal attention be given to the explicit central identification and recognition of the role of various program managers and the formal incorporation of their inputs into the decision and evaluation process. For example, it is clear that program decisions are frequently made without benefit of complete financial data. Furthermore, a traditional presentation of organizational expenditure data, even if considered, would not be particularly useful to making program decisions.

Program budgeting requires that the appropriate program decision makers in the system be identified and supplied with data pertinent to the decisions they make.

Program budgeting also requires that major adjustments be made in the traditional budget cycle so that program needs can be reflected before organizational budgets are built. Specifically the task force recommends:

1. **The identification of program decision areas, and the identification and assignment of program coordination responsibilities for each area. An organizational table should be maintained and updated by**

a central office, e.g., program budget office, finance department or president's office.

2. The development of an appropriate analytical/reporting system to provide data to program coordinators.
3. The establishment of a systematic program review system that incorporates the program coordinators.
4. Where applicable, the identification of program coordination responsibilities in written job descriptions.
5. The establishment of an evaluation system that evaluates program coordination performance on a regular basis.

Identify Inputs and Outputs

Inherent in a Program Budgeting System (PBS) is the measurement of inputs and outputs.

Inputs to university programs are relatively easy to identify — faculty effort, supplies, overhead, space, etc. There is, however, a lack of consensus concerning the best way of specifically determining what portions of the above inputs actually relate to a particular program. This subject is covered under the next section, Establishing Program Costs.

Each type of organization is expected to produce results and educational institutions are no different. The performance of business organizations is often measured by the number of units produced and by the amount of profit and loss. Although different from profit-making corporations in many fundamental ways, educational institutions can be partially measured by the number of quality of output units they produce, e.g., credit hours, graduates, research projects completed, public service hours, etc.

There has been a great deal of discussion and confusion concerning the outputs of higher education. Much of the confusion relates to output measures. There are several different ways of measuring the outputs of higher education. Raw quantifiable data such as credit hours taught, number of degrees granted, cost per student, etc., are one way of measuring outputs. These kinds of data are readily available and have become popular output measures. However, there are other output measures that are more related to quality and are not as easily quantified. Examples of these kinds of output measures are the educated person, new knowledge, a higher standard of living and moral and social justice.

In the instructional program, an output indicator commonly accepted is the credit hour. In fact, John D. Millett states that the credit hour is the only satisfactory quantitative statement of output for the instructional process. Although Millett discusses the subject of outputs for other programs and offers a typology of outputs, there is less certainty with regard to the identification of outputs for other programs.

The problem of identifying outputs of research and public service programs is less difficult at the elemental level (e.g., research project or continuing education seminar) but, because of the wide variety of programs, these outputs are much more difficult to aggregate. For this reason, dollar aggregates, project counts or participant counts are frequently used as output surrogates.

Clearly much work needs to be undertaken in this area of output measures. NCHEMS/WICHE has developed three exploratory publications along these lines:

1. **The Outputs of Higher Education: Their Identification Measurement and Evaluation** — July, 1970.
2. **The Outcomes of Higher Education** (Draft) — July, 1972
3. **Program Measures, Technical Report 35** — February, 1973.

Appendix C of the latter publication identifies program measures for the beneficiary group, the target group, the activities and the outcomes for each subprogram in the NCHEMS/WICHE Program Classification Structure. The activity and outcome measures are particularly pertinent to program budgeting, and for this reason **examples** of these recommendations appear as Appendix 3 of this report.

It is recommended that more than one output indicator should always be utilized where appropriate. As a general rule, a single output indicator is seldom sufficient for purposes of analysis. Specifically in instructional programs, both the number of student credit hours and degrees awarded should be used as a minimum. Also, it is important that output indicators be used over a period of several years in order to make meaningful comparisons.

Establishing Program Costs

Developing a relationship between organizational expenditures and program costs is difficult but essential to program budgeting. Thus, it is important to develop methods for translating historical departmental expenditure data into program costs. These historical costs serve as a basis for raising questions about "what is", and also provide some parameters about "what would be a likely cost in the future if X occurs." There are no standard program costing models available in higher education. However, it is clear that virtually all higher education costing systems rely heavily on a student course lead data base and faculty activity estimates.

The Regents' Resource Allocation Model is an example of a program costing model, as is the Cost Estimation Model (CEM) developed by NCHEMS/WICHE. Other models such as CAMPUS (developed by the Ford Foundation at the University of Toronto and currently marketed through the Systems Research Group in Toronto), and CAP — Cost Allocation Procedures, the Resource Requirements Prediction Model (RRPM) developed by NCHEMS are designed to determine historical costs and to project future costs. Dr. Leo J. Navin has done a great deal of significant work in developing program costs at Bowling Green State University.

As previously mentioned, the Ohio Board of Regents Resource Allocation procedures could be helpful to institutions if they could be translated back into organizational unit instructional program contributions. **It is recommended that the Ohio Board of Regents staff, with the aid of university officials, address the problem of translating program costs back into organizational units.** It is believed that the present Uniform Information System of the Ohio Board of Regents could be modified to fit this need.

Projecting Income

Too often in the past, undue emphasis has been placed on budgeting for expenditures. In extreme cases expenditure budgets have at times been proposed on a departmental, or university level without due consideration to income sources.

Thus, **it is recommended that income projections (source of funds) be an integral part of every budget document.** This recommendation should be followed for every organizational unit at every level, and for all programs.

Projecting income is a very difficult and complicated process. The ability to successfully project income depends to a greater extent on the knowledge and experience of the individual handling the projection rather than the method. Each university will have its own trained personnel and special techniques for projecting income. Thus, the purpose of this section of the manual is not to provide detailed directions, but rather to offer some general guidelines to consider in projecting income. These guidelines are as follows:

1. **Good income projections are based to a great extent on good enrollment projections. Not only should the number of students be accurate, but the mix of students should ideally be anticipated. However, this is a most difficult task.**
   The following ideas are offered to help deal with the problem of enrollment projections.
   a. **Responsibility for enrollment projections must be clearly defined.**
   b. **The personnel responsible for enrollment projections must work closely with those individuals responsible for income projections.**
   c. **Organization(s) responsible for enrollment projections should work closely with an informed enrollment committee.**
   d. **Enrollment projections should be presented in terms of a low-high range and most likely outcome.**
   e. **Long-term enrollment projections should be made, perhaps ten years in advance and regularly updated.**
   f. **Records of the assumptions underlying such enrollment projections should be maintained to provide a basis for subsequent evaluation and revisions.**
   g. **Specific dates for revising enrollment projections should be incorporated within the budgeting timetable.**
2. **All income projections should be stated in writing, and fully documented concerning the assumptions made, and the information believed to be factual.**
3. **Ascertain that an income projection is made for all fund sources and for all programs.**
4. **When a project or plan is first proposed, an approximation of potential income should be made. The approximation should become more accurate as projections are updated.**
5. **Where such would be pertinent, income projections should be stated in a low-high range, along with the most likely outcome.**

6. **Historical records should be maintained (in one record-book) of income projections and actual for the various sources of income, e.g., student fees, state subsidy, etc. Enrollment projections and actual enrollment (by mix) should also be incorporated with these records.**

7. **An appropriate officer of the university as designated by the president should be responsible for generating ideas and plans of action to generate additional income. Some of the ideas will be profitable while others will not. The important factor is, that in many cases if an institution makes a concerted effort to generate additional income it can often do so. These ideas and plans should be documented on a regular basis.**

   The results of generating additional income should be publicized within the university community, the board, the Ohio Board of Regents, and the Legislature.

8. **Specific responsibility should be assigned to monitor monthly income projections and provide timely reports to the president and other appropriate officials.**

Because the state subsidy is based almost exclusively upon enrollment levels and mix, coupled with the fact that enrollments are uncertain, it is extremely difficult to make good income projections. Compounding this problem is the fact that new state subsidy levels are often not estalished until after the beginning of a new biennium. Also, the institution's enrollment level and mix is not known until the Fall of the year. This is of course several months after a fiscal year is started and personnel contracts are committed.

The present formula of allocating income to institutions does have some advantages such as equity and a one-year lead time in the second year of the biennium (In some states, e.g., Illinois the state subsidy level is known only on a yearly basis.). However, the major disadvantage of the present subsidy formula is that it is a variable factor and dependent almost exclusively upon enrollment level and mix. This is a problem, particularly when enrollments are declining, because the expenditures of a university are both "fixed" and "variable". Consequently, although income may be declining certain "fixed" expenditures will occur, e.g., heating, electricity, mandatory civil service increases, etc.

To assist universities in making income projections and to better manage its financial affairs, it is recommended that the Ohio Board of Regents in conjunction with a task force of university representatives study longer time frames and new ways of allocating monies to higher education. Along with other factors it is specifically recommended that the task force study the desirability and feasibility of guaranteeing a minimum subsidy level for a two-year period in advance.

Calculating Resource Requirements

Resources have been defined as personnel, space, materials and equipment. When evaluating resource requirement universities must address themselves to both operating budgets and to capital budgets. This is true because of the profound effect each type of budget has on the other. For example, a

new building funded from capital funds will need operational support for many years in the future. This is especially true after a capital project, (e.g., classroom building) has been completed.

When evaluating resource requirements, it is recommended that operating budgets (for all appropriate fund groups) and the capital budget be jointly considered. Furthermore, it is recommended that the same personnel and organization involved in approving an operating budget should be involved in approving the capital budget.

The recommendation that capital budgets and operating budgets be jointly considered is important at the Board of Regents and legislative levels, as well as at the university. In some cases, universities have submitted requests for capital funds without due consideration of their impact on the operating budget. Also, legislatures have funded a capital project, e.g., a new college building, without due consideration of a minimum operating budget until enrollments are increased to sufficient size.

One of the most important considerations in developing an operating budget is to decide upon a systematic approach. Appendix 4 describes a number of budget models. Incremental, open-ended, zero base, quota, alternative level and expenditure classification budget models are all reviewed in terms of their advantages and disadvantages.

In addition, there are a number of resource calculation aids discussed in Chapter 3.

Consider Alternatives and Priorities

After income (source of funds) and resource projections have been made, detailed attention should be focused on comparing resource requirements to available resources. This type of comparison should be made on a program by program basis.

The analyst should be asking questions when comparing required resources to available resources. For example: Is the income (source of funds) projection reasonable? What can be done to enhance the possibility of generating additional funds for this particular program? Are the resource requirements (personnel, operating support, equipment and space) reasonable projections? What can be done to reduce the need for resources while still maintaining the effectiveness of the program?

Within the framework of comparing required resources to available resources and the actual allocation of resources it is highly desirable to establish priorities and consider alternatives.

The identification of priorities and the consideration of alternatives is a vital aspect of the program budgeting process. As with other aspects of the process the isolation of priorities and alternatives is interwoven throughout the budgeting process.

Setting priorities may be defined as stating the relative importance of specific goals, objectives and programs. There are diverse methods for stating them, — not all of which refer to the programs suggested in this manual. For example:

1. **Pure Programs Basis:**
   #1 Priority Program — Instructional and General $ 6,000,000

#2 Priority Program — Public Service	1,000,000
#3 Priority Program — Financial Aid	1,500,000
#4 Priority Program — Research Programs	1,500,000
	$10,000,000

2. **Organizational Basis**

#1 Priority — Present salaries	$ 7,000,000
#2 Priority — Present operational support	500,000
#3 Priority — New faculty position	1,600,000
#4 Priority — Increment operational support for inflation at 5% ($500,000 x .05)	25,000
#5 Priority — 5% salary increases ($7,000,000 x .05)	350,000
#6 Priority — Other new programs	525,000
	$10,000,000

3. **Combination program and line item basis.**
4. **The adjustment of a budget by some flat percentage increase or decrease or by a specified dollar amount.** The resulting budget by inference sets priorities.

The term "alternatives" as used in the planning process refers to the concept of different programs accomplishing the same objective. Thus, a choice between programs can be made based upon cost-effectiveness or other criteria. This concept is also valid in program budgeting.

Generally, we think of "program" as encompassing a group of coordinated activities. In gearing up these activities, we consider many alternatives, including for example, alternative courses, alternative technologies of teaching each course, alternative admission, testing and student counseling practices. We select one alternative from each of these sub-sets to implement and the sum of all these selections becomes "the program". Universities have been considering alternatives for years in their budgeting process. But a systematic process and documentation of this facet were often lacking. It is recommended that each university **continue its efforts at considering alternative programs. Specifically, the program budgeting process should require the consideration of such alternatives by all parties. All budget proposals should contain a description of programs considered as well as the reasons for adopting the proposal instead of another.**

Translating Program Decisions Into Organizational Budgets

Program budgeting adds three major elements to the traditional budgeting cycle-program analysis, program resource requirements and allocation, and program evaluation and control. Each of these elements involves a translation between organizational data and program data.

Translating program budgets into organizational budgets begins in the analysis of current program cost from faculty service reports, and student enrollments. Here it is important that the organizational linkages to programs be established for costing purposes be maintained for the purpose of translating new resource requirements back into organizational budgets.

For example, assume that mathematics accounts for 20% of the cost of a general studies program, and further that this represents 30% of the budget of the department of mathematics. If the mathematics component of the general studies program is increased by 10% it would likely cause a 2% increase in the cost of general studies and 3% increase in the mathematics department budget as shown in Exhibit **2.3.**

Exhibit 2.3

Hypothetical Analysis of Costs and Budgets Before and After A 10% Increase In The Mathematics Component of A General Studies Program

	Before	**After**	**% Change**
Mathematics General Studies Program Cost	$ 60,000	$ 66,000	+10%
Total General Studies Program Cost	$300,000	$306,000	+ 2%
Math Cost as % of General Studies Cost	20%	21.6%	—
Total Math Department Budget	$200,000	$206,000	+ 3%
Math General Studies as % of Math Dept. Budget	30%	32%	—

This kind of translation should be recognized as only being a starting point for establishing the impact of program decisions on departments. For example, the chairman of mathematics might be able to handle the program increase with less resources if classes are not filled, or more resources might be required if a new assistant professor has to be hired to handle the increased load.

When programs are to be added, eliminated or changed in a major way, explicit estimates of the impact of such a decision should be required from all departments affected. Such estimates should accompany the request to add, eliminate or change the program and should serve as the basis for translating program decision into departmental budgets. For example, adding a Masters program in public administration is likely to place new requirements on the economics, business administration, computer sciences, political science, sociology, and psychology departments as well as on the library and computer center. Estimates of these requirements as well as that of the department of public administration should be explicitly stated. Such estimates should be prepared by the program coordinator recommending the new degree with assistance from the departments affected.

In the ideal program budget environment, the program coordinator would assess long-range priorities and make recommendations. This should be done with the knowledge of departmental implications. Department chairmen would respond to these program needs with an organizational budget that met these needs as well as the needs of the department. (for example, sustenance of a healthy balance of staff, appropriate regard for equitable salaries, sufficient space, equipment, etc.). **In short, program decisions do not currently, and never will, translate on a one for one basis into departmental budgets.** How-

ever, formalizing program decisions herein will increase the ability to translate program needs into departmental plans.

Evaluation

Closely related to program management and a key component of program budgeting is a system of evaluation. Evaluation is the feedback loop of the program budgeting system. Some type of evaluation, of course, must appear at every step of the program budget cycle but it deserves special attention as a feedback component.

Evaluation is defined as a systematic process for determining or estimating the effectiveness of a particular program. Evaluation of programs should be based on a comparison of actual results with pre-established objectives.

The evaluation process need not be overly difficult if a few basic guidelines are followed. The first guideline is to compare actual results with expected results. Expected results should be set forth in pre-established objectives. If the pre-established objectives meet the requirements as proposed in the Management Improvement Program planning manual, evaluation will be basically a matter of following through.

In short, it is recommended that evaluation be based on a system of management by objectives. Appendix 5 provides two examples of an evaluation system based upon management by objectives.

All educational programs are intended to produce some desired changes, within some time period. Thus, it is important that the objectives of a program be clearly stated and that they meet the criteria of an objective. If this is accomplished, as illustrated in Appendix 5, then **evaluation is basically a process of determining the relationship of outcomes in relation to the pre-established objectives.**

Another key question to consider in evaluation is, "Did the program operate as it was designed to operate?"

In addition to determining whether the program achieved its objectives, it is important to know how the program was conducted. Specifically, if a program succeeded or failed, it is important to be sure the program was conducted as it was designed to be carried out. Any changes should be noted. Ultimately, we wish to assess the effectiveness of the program design or the idea behind the program, to ensure we can decide whether to reject, approve, expand, or modify that design in the future. If we do not ascertain what actually happened during the program operation, we cannot evaluate that design as a basis for future decisions.

In addition to finding the results and checking the operation of the program plan, many evaluation studies are concerned with demonstrating that the activities actually caused the results. In other words, it should be asked: (1) Are the results of the program attributable to the program? and (2) Who was responsible for the results?

Perhaps, it was an external force or a certain individual that enabled the program to attain the desired results; or perhaps it was by chance. Thus, it is important in an evaluation process to know why the results occurred and who was responsible.

The process of answering the foregoing questions in the evaluation process could culminate in an evaluation report which should be the basis

for determining what statements and decisions can be supported by the evaluation findings.

The evaluation report should be short and direct. It should include the following information:

(1) **A brief description of the program**

(2) **A statement of the activities and objectives of the program**

(3) **A report on which objectives were met, including a description of the measuring techniques employed, and a summary of the data**

(4) **A report on which activities or events outlined in the program plan were actually achieved by the operating program, which were incomplete or not in accordance with the design, or which did not occur**

(5) **A comparison of the program costs relative to a unit of output (or other cost-effectiveness measures)**

(6) **Problems and difficulties of the project.**

Finally, the evaluation report will become feedback in the program budgeting system. The value of the report will be in direct proportion to the inpact it has on the future decisions made by planners. Without a good evaluation system, program budgeting will not be effective.

3. Implementing a Program Budget

In this chapter, the organization of the program budget function and resources required for program budgeting are discussed.

Program Budget Plan

A program budget plan as described in this manual refers specifically to the documentation that should be available in support of any organizational unit's approved operating budget for each of its programs. **Specifically, it should include for each program:**

1. **General Description**
2. **Goals for the unit**
3. **Measurable objectives to be satisfied**
4. **Alternative methods considered**
5. **Resources allocated and committed — personnel, space, equipment, departments involved**
6. **Assumptions used, including number of students income and expense, etc.**
7. **Relation to past and future years for this program**
8. **Relation to rest of university's plans**
9. **Evaluation criteria and timetable**

ORGANIZATION OF THE PROGRAM BUDGETING FUNCTION

The actual implementation of a program budgeting system at a particular institution will be a difficult process. A number of factors, both internal and external, will determine the success of such an effort.

Internal Consideration

Internally, the commitment of the institutions' senior administrators to the concept and the support of the faculty are very crucial factors. The university's president and his senior vice presidents must be convinced of the need for program budgeting. **It is recommended that the board of trustees and president publicly declare their intentions to utilize a program budgeting process, that an implementation schedule be approved and that a commitment of the necessary resources, (personnel, dollars and time) be made.**

Another internal problem to be overcome will be an attitudinal one — particularly on the part of the faculty. This attitude involves the role of central authority. Unlike the private corporation, central authority in a university does not have full planning and management power. Within the university, central authority has traditionally concerned itself with finances and facilities. The

determination and direction of programs is largely in the hands of those directly involved in the educational process — the faculty.

There is still considerable debate within higher education concerning the role of central authority. Plans for program budgeting will immediately evoke fears of greater centralization on the part of the faculty. Robert J. Parden has stated, "The acceptance of any rational decision-making system does center around faculty attitudes". The faculty may ultimately accept program budgeting if:

1. They truly accept the concept of rational decision-making as the basis for operation of the academic community.
2. The tenets of academic freedom proposed by the American Association of University Professors are realized:
   For the common good
   For the rights of the faculty to teach
   For the rights of the student to learn
3. They are confident that non-economic and cultural, as well as economic values of higher education will be included in the analysis.
4. Mechanisms will be developed to accommodate reasoned demands with reasoned response and discussion.
5. There is a general recognition that pressure external to the university community will force re-evaluation of that which is being accomplished with present resources. The re-evaluation will be more significant if it is undertaken by members of the academic community.
6. It is recognized that politics are never eliminated from any system. However, the deliberations can be carried out more effectively with pertinent information, than if they are undertaken in a vacuum.

In an effort to account for the above, it would be desirable for each university to create an advisory task force on program budgeting. (The University of Cincinnati's PPBS Committee is an example). This group should consist of representatives from the university administration, faculty and student body. A number of the faculty on the program budgeting task force could be drawn from the faculty governing body. To promote acceptance, the active participation of such bodies from the earliest stages seems essential. This group might be chaired by the individual who will be (or currently is) in charge of the office of planning and program budgeting (or some similar title — this office ordinarily reports directly to the president of the institution).

Once the university task force is operative, it would be desirable to create college and department committees to develop and integrate their curriculum and instructional programs with the program budgeting process.

External Consideration

Externally, three key agencies, the Ohio Board of Regents, the Ohio General Assembly and the Office of the Governor, will have an impact on the process of establishing a program budget system within Ohio's state supported institutions of higher education. The policies of the Ohio Board of Regents will probably be most crucial — at least in the short run. If the Regents and the Chancellor are strongly committed to a program budgeting process, they will follow appropriate policies, and provide adequate support to that end. It is unlikely that all the state's schools will feel a great urgency to move in

this direction unless the Ohio Board of Regents motivates them in that direction.

A crucial support factor is the financial one. If the universities are to engage in serious program budgeting, they must have some assurance about the resources they will have to allocate. Under the present system of state funding, a system tied to FTE enrollments, the universities do not have this assurance. As previously recommended, (see Income Estimates) the OBR might consider a system of guaranteeing each institution a certain appropriation whether their enrollment materializes or not. In other words, a floor would be provided for each university. If enrollment continues to decline, this support could be lowered — but with enough advance warning to ensure that decision-makers could alter their budget plans. Rational budgeting is encouraged when there is some assurance of the resources to be allocated.

The thinking and philosophy in the Governor's office is also a crucial factor in the future of program budgeting. Appointees to the OBR and the philosophies they reflect in their role will have an impact on the course of the Board. More immediately, the recommendations made to the legislature concerning funding higher education and whether that funding is strictly tied to the FTE formula will affect program budgeting. Moreover, to the extent that the Governor promotes better management practices throughout state government, the general state climate will encourage university administrators to take program budgeting more seriously.

RESOURCES REQUIRED FOR PROGRAM BUDGETING

Central Staff Resources

Before one can address the subject of providing centralized staff support for a program budgeting process, it is best to discuss the kinds of support necessary. Following is a partial list of tasks which must be performed to implement and use program budgeting.

1. Design the actual detailed process, including forms, deadlines, data flows, approval process, etc.
2. Educate personnel involved about the process. This involves not only introductory teaching sessions, but ongoing operational assistance to faculty, department heads, deans, etc. as they prepare their budget proposals.
3. Provide comparative data from other schools, systems, states, agencies regarding quantitative and qualitative measures of performance.
4. Provide data concerning existing and past operations within the university itself.
5. Provide central projections of certain data to support the process. This especially pertains to detailed, departmental, enrollment projections by program level.
6. Assist in estimating or evaluating resource requirements.
7. Assist in estimating all implications of budget proposals on a school's resources, as well as its outputs.
8. Provide for full integration of program budgeting process within the planning process.
9. Assist in evaluating proposals as well as ongoing programs.

Appendix 6 illustrates the sequence of general tasks in a program budget cycle and timetable.

As can be inferred, many offices and people must be involved to satisfy the foregoing needs. Specifically, the registrar, personnel office(s), finance office, institutional research, data processing, space data office, and systems must be involved intimately with a sizable commitment of time and effort to the process. Furthermore, an individual (or group) from the "academic" administration must also be deeply involved, throughout the entire process.

To reiterate what was said in an earlier section, program budgeting cannot be left to implementation and use without major direction and **support.** If all of the administrative offices mentioned above are organizationally within the same structure (e.g., all report to the same vice president), and if that organizational structure is the one charged with the overall task of coordinating and directing the budgeting process, then the problem of support for the process is much more easily handled. On the other hand, if personnel providing all of the help mentioned in the above are in differing organizational lines, problems of duplication, lack of commitment, etc. are much more likely to occur.

For the above reasons, **it is recommended that the coordination and leadership for the program budgeting process rest with one individual.**

Information Data Base

Program budgeting requires a significant increase in the amount of data from that which supports the traditional line item appropriation budget. In the academic area, resources must be allocated to programs. This requires the use of student-faculty ratios, teaching loads, average compensation and budgeted expenditures per student FTE. Faculty activity data are important in relating resources to non-instructional programs such as research, public service and academic support functions. In the non-instructional divisions, such as libraries, plant operation and maintenance and general administration, average costs per student FTE are useful in determining how these support costs vary with enrollment. Appendix 7 illustrates the kinds of data that are needed to support the program budgeting process.

Anyone attempting to compile all of the data desirable for program budgeting faces a nearly impossible task. Questions concerning real outputs, benefits, value added, specific services and measurability require a tremendous data bank involving everything from the ability/expectation levels of entering students to the number of graduates admitted to "prestigious" graduate schools. The list could go on and on.

More important to begin the program budgeting process is the determination of the minimum types of data needed to support the process. In this regard, the universities in Ohio have a major advantage. The OBR Uniform Information System, which requires feeding raw data to the OBR, includes enough items to make program budgeting, as suggested in this manual, workable. Student credit hours by level and discipline, professional staff effort by program category, personnel, financial and space data are both inter-related and complete enough to provide the programmatic costs as specified earlier. Any university, building upon the Uniform Information System data is in a position to construct a program budget for any prior or current year's situa-

tion. This in turn provides a basis for projecting and/or preparing program budget plans for future years while modeling and simulation techniques would greatly assist the process, they are not absolutely necessary to implement program budgeting. **It is therefore, recommended that the program budgeting process use the data provided in the Uniform Information System and its sources.**

Other possible sources of data for developing a Program Budget are as

1. WICHE-NCHEMS — The entire effort of this group, heavily funded by the federal government and foundations, has produced and shows promise for providing data for schools adopting program budgeting (See Appendix 8 for a brief discussion of the analytical services and tools provided by NCHEMS-WICHE).
2. OBR Models — The models used by the OBR in allocating statewide subsidies to institutions bear close scrutiny. As noted in the MIP Personnel Manual, the concept of allocating faculty positions based on an average number of student credit hours per faculty member stems from these models.
3. AAMC Medical Center Cost Studies — Both the methodology and data produced by these studies merit detailed attention by anyone designing a program budget system or wanting comparative data.
4. Individual Schools — Some institutions are well advanced in considering, planning and implementing program budgeting or some facets of program budgeting. In particular, Bowling Green State University, University of Toledo, University of Cincinnati, Ohio University and Ohio State University are so involved in the State of Ohio. The University of Cincinnati has published a program budgeting manual which describes the detailed steps and procedures for preparing a program budget (a copy may be obtained by writing to Donald C. Bruegman, Director of Systems, University of Cincinnati, Cincinnati, Ohio 45221).

Once the process is operational, additional and more sophisticated data can be added. Certainly, the ability to predict long-term program requirements into the future will be necessary. This will involve projected enrollments and simulations of the budget, and its implications on student/faculty ratios, expense per student, faculty salaries, degrees produced, etc. Concurrently, comparative institutional data can be gathered to support the process.

Updating and Monitoring the Data Base

One of the most important, yet often overlooked, tasks to make program budgeting effective is that of ensuring the accuracy and timeliness of the data used in the process. Recommending, for example, that the Ohio Board of Regents, Uniform Information System (UIS) data be used as a basis for program budgeting is one thing. But, ensuring the accuracy of these data, and thus their usefulness to an individual institution, is quite another problem deserving much attention by the individual charged with managing the program budgeting process. In nearly all schools in Ohio, the Uniform Information System data will need to be thoroughly edited, improved, and corrected in an ongoing way before it can be used in decision-making. This will require

extensive time and effort on the part of personnel charged with the responsibility of maintaining and servicing those files. This facet must be considered when designing the program budgeting process at an individual institution and probably should be a major concern of the program budgeting designers.

Resource Allocation Aids

There are available today any number of resource allocation aids. A rather complete listing can be found in the Planning Manual which is a part of the overall Management Improvement Program. They involve nonquantitative (subjective) systems, general systems methods, conventional scheduling models and quantitative (mathematical statistical) techniques. Included among this last group are such items as extrapolation, correlation analysis simulation, cost-benefit analysis, probability and systems analysis. Of particular note are four simulation type aids available today—the Resource Requirements Prediction Model (RRPM) produced by WICHE-NCHEMS, CAMPUS, a simulation system available from Systems Research Group (SRG), SEARCH, a simulation system developed by Peat, Marwick, Mitchell, & Co., and HELP/PLANTRAN, a simulation language developed by Midwest Research Associates. All appear to offer promise to schools wishing to provide simulation capabilities for program budgeting. (The Management Division of the Academy for Educational Development has recently published an excellent summary of model systems and other programs designed to improve the management of colleges and universities. The catalogue is titled, **Systems Models and Programs for Higher Education**, by William A. Shoemaker).

Also, the OBR UIS includes quite a number of report programs generated for use by the OBR including a complex program resource accounting tool called Resource Analysis Procedure (RAP). If these Ohio Board of Regents Uniform Information System programs were provided to the individual schools, considerable assistance to the program budgeting effort would accrue. In order to provide support to individual institutions, **it is recommended that a committee of university representatives and Ohio Board of Regents staff, in an effort directed by the OBR, undertake to do the following:**

1. **Modify the UIS to ensure an institution can use all of the UIS computer programs (including RAP) to produce reports which fit the organizational units of the individual university.**
2. **Restructure the RAP to make its results compatible with both the WICHE-NCHEMS-UIS program structure (e.g., calculate resources required for research program instead of assuming all research contributes only to instruction), and more generally accepted costing principles (such as those used in Medical Center Cost Studies directed by the Association of American Medical Colleges, the Cost Finding Principles enumerated by WICHE-NCHEMS, and the Costs of Graduate Education Report published by the Council of Graduate Schools in the U. S.).**
3. **Investigate thoroughly simulation systems available as described above, and suggest for statewide implementation one or more if considered cost-effective. In this light, the committee should also con-**

sider the possibility of applying to all schools specific systems and computer programs now in use in specific schools that are implementing a program budgeting process (such as the University of Cincinnati).

Time Constraints

Simply stated, the implementation of a program budgeting process cannot be accomplished overnight, nor will a system be fully usable the first time through. Sufficient time must be allowed for the following:

1. Design the process, forms, systems and computer programs. This includes time to study and resolve such very complex and detailed questions as how to convert from program budget in the allocation stage to appropriation budget in the control stage.
2. Time must be allowed in which to educate personnel to the process. Training sessions for department heads, informal tutoring sessions, and expanded time for actual preparation must be allowed. In addition, time to prepare for the training sessions must be allotted.
3. In the higher education environment today, when financial resources are not expanding, program **reductions** or **eliminations** are neccessary. But because of personnel considerations, usually at least one full year's notice must be given. Thus, the program budgeting process must be designed to ensure basic allocation decisions are made and communicated by September 1, of the year preceding the actual enactment.
4. The first time through may uncover sizable data errors, as well as other kinds of errors. Thus, a pilot year may be necessary before full confidence in the system is warranted.

In summary, this manual has attempted to set forth a framework in which to develop, and implement a program budgeting system. It is recognized that individual institutions will have to modify the framework in order to meet their specific needs. In order to help meet the financial constraints of the 70's it is imperative that institutions of higher education in Ohio move immediately to adopt a program budget that will complement the traditional organizational budget.

Appendix 1

Best Copy Available

EXAMPLE OF AN ORGANIZATIONAL LINE ITEM BUDGET AND A PROGRAM BUDGET
TWO VIEWS OF AN INSTRUCTIONAL PROGRAM BUDGET: AN EXAMPLE

Organizational Unit Line-Item Budget for Execution and Control			Instructional Program Budget for Planning and Decision Making	
story Department			History Program	
Academic Salaries	$ 349,087	54.6% — $216,904	Lower Division	$ 111,327
Support Staff Salaries	35,733		Upper Division	209,656
Supplies and Expenses	4,428		Graduate Division	88,619
Equipment	2,864		TOTAL	$ 409,602
Other Expenses	5,148			
TOTAL	$ 397,260	9.6% — $38,137		
ology Department			Biology Program	
Academic Salaries	$ 495,365		Lower Division	$ 141,340
Support Staff Salaries	59,629		Upper Division	184,041
Supplies and Expenses	7,232	10.7% — $42,507	Graduate Division	141,974
Equipment	4,609		TOTAL	$ 467,355
Other Expenses	7,516			
TOTAL	$ 574,351			
ne Arts Department			Fine Arts Program	
Academic Salaries	$ 299,778		Lower Division	$ 83,918
Support Staff Salaries	24,935		Upper Division	88,487
Supplies and Expenses	7,808	25.1% — $99,712	Graduate Division	43,048
Equipment	3,974		TOTAL	$ 215,453
Other Expenses	4,641			
TOTAL	$ 341,136			
siness Department			Business Program	
Academic Salaries	$ 418,892		Lower Division	$ 153,619
Support Staff Salaries	32,888		Upper Division	301,973
Supplies and Expenses	2,889		Graduate Division	229,510
Equipment	2,985		TOTAL	$ 685,102
Other Expenses	7,111			
TOTAL	$ 464,765			
TAL DIRECT INSTRUCTIONAL COST —	$1,777,512		TOTAL DIRECT INSTRUCTIONAL COST —	$1,777,512

APPENDIX 1

TWO VIEWS OF AN INSTRUCTIONAL BUDGET

"Program budgeting" assumes two views of an instructional budget that are interrelated and of equal importance. One is the traditional organizational unit line-item budget, and the other is the program budgeting itself.

A program budget is a summation of the resource contributions of organizational units to the various programs. It provides information for planning and decision-making purposes. For example, an instructional program budget for the history program would indicate the resources (dollars) contributed from each of the four organizational units or instructional departments illustrated here.

A line-item budget, by contrast, is used for daily execution and control purposes within organizational units. It focuses upon the activities within a single department or college, for example, without regard to the programs to which those activities contribute.

Note that the total direct instructional costs for the four instructional departments is equal to the sum of the direct instructional costs shown for the four programs. This is so because the cost information in the organizational unit line-item budget has simply been reaggregated to reflect the flow of resources from the instructional departments to the programs.

Appendix 2

WICHE PROGRAM STRUCTURE
The Educational Institution

I. Primary Programs
- 1.0 Instruction
  - 1.1 Regular Instruction
  - 1.2 Special Session Instruction
  - 1.3 Extension Instruction (for credit)
  - 1.4 Experimental Instruction
- 2.0 Organized Research
  - 2.1 Institutes and Research Centers
  - 2.2 Individual or Project Research
- 3.0 Public Service
  - 3.1 Departmental Continuing Education
  - 3.2 Organized Extension Continuing Education
  - 3.3 Organized Extension Community Service
  - 3.4 Campus Community Service
  - 3.5 Agriculture Extension Service

II. Support Programs
- 4.0 Academic Support
  - 4.1 Libraries
  - 4.2 Museums & Galleries
  - 4.3 Audio/Visual Services
  - 4.4 Computing Support
  - 4.5 Auxiliary Support
- 5.0 Student Service
  - 5.1 Social and Cultural Development
  - 5.2 Supplementary Educational Service
  - 5.3 Counseling and Career Guidance
  - 5.4 Financial Aid
  - 5.5 Student Support
- 6.0 Institutional Support
  - 6.1 Executive Management
  - 6.2 Financial Operations
  - 6.3 General Administrative Services
  - 6.4 Logistical Services
  - 6.5 Physical Plant Operations
  - 6.6 Faculty and Staff Services
  - 6.7 Community Relations
- 7.0 Independent Operations
  - 7.1 Institutional Operations
  - 7.2 Outside Agencies

Appendix 3

BENEFICIARY GROUP MEASURES, TARGET GROUP MEASURES, ACTIVITY MEASURES, AND OUTCOME MEASURES

This section consists of program measures for the beneficiary group, target group, activity and outcome measures groups for each PCS subprogram. To guide the reader in associating these four groups of program measures with the appropriate level of the PCS, the following coding scheme is used to indicate the lowest level in the structure at which any particular measure can be introduced.

P = Program
SP = Subprogram
C = Program category
SC = Program subcategory
S = Program sector
E = Program element

Also, in describing the measures, words such as "Total," "Number of," and "During period" were deleted except in cases where the measure might be misunderstood. For example, "Students enrolled" should be read as "Total number of students enrolled (or expected to be enrolled) during period."

The lists of these measures for the PCS subprograms follow.

1.0 INSTRUCTION PROGRAM

1.1 GENERAL ACADEMIC INSTRUCTION

Beneciary Group Measures:
- —Students enrolled, by educational objective, such as academic, occupational, vocational (SP)
- —Students enrolled, by geographic distribution (SP)
- —Students enrolled, by socioeconomic mix (SP)
- —Students enrolled, by sex (SP)
- —Students enrolled, by major/nonmajor status (E)
- —Students enrolled, by student level, such as graduate, lower division, upper division (E)

Target Group Measures:
- —Intended student population, by educational objective, such as academic, occupational, vocational (SP)
- —Intended student population, by geographic distribution (SP)
- —Intended student population, by socioeconomic mix (SP)
- —Intended student population, by sex (SP)
- —Intended student population, by level of academic ability (E)
- —Intended enrollment mix, by major/nonmajor status (E)
- Intended student population, by student level, such as graduate, lower division, upper division, high school students taking colleges preparatory courses (E)

Activity Measures:
- —Degree programs, by level of degree program (SC)
- —Courses offered, by course level (SC)
- —Course enrollments, by level of student (E)

APPENDIX 3

—Weekly faculty contact hours, by instruction type, such as lecture, seminar, laboratory (E)
—Weekly student hours, by instruction type (E)
—Sections offered, by instruction type and course level (E)

Outcome Measures:
—Degree or certificates granted, by type (SC)
—Students accepted for transfer to another institution (SC)
—Percent of graduates receiving job offers within a certain time period, such as 90 days after graduation (SC)
—Average first salary of graduates (SC)
—Student credit hours not completed, by course level (E)
—Students passing the course as a percent of those originally enrolled (E)

1.2 OCCUPATIONAL AND VOCATIONAL INSTRUCTION

Beneficiary Group Measures:
—Beneficiary group measures listed under subprogram 1.1

Target Group Measures:
—Target group measures listed under subprogram 1.1

Activity Measures:
—Activity measures listed under subprogram 1.1

Outcome Measures:
—Outcome measures listed under subprogram 1.1

2.0 ORGANIZED RESEARCH PROGRAM

2.1 INSTITUTES AND RESEARCH CENTERS

Beneficiary Group Measures:
—Faculty who conducted research within a problem area specified by the mission and scope of the research center (SC)
—Faculty appointed for the academic term and visiting scholars who conducted research during the summer session (SC)
—Graduate students who were included in research with faculty as research assistants (SC)
—Source groups funding research projects (E)
—Organizations applying the resultant knowledge (E)

Target Group Measures:
—Faculty interested in doing research within a problem area specified by the mission and scope of the center (SP)
—Faculty interested in submitting research proposals that include dissertation-stage graduate students as research assistants (C)
—Faculty appointed for the academic term and visiting scholars interested in conducting research during the summer session (SC)

Activity Measures:
—Proposals submitted, by funding source (SC)
—Projects initiated, by funding source (SC)
—Projects in progress, by funding source (SC)
—Projects completed, by funding source (SC)
—Number and size of budgets administered, by funding source (SC)
—Students participating in research activities, by level of student (E)
—Seminars held (if dissemination of knowledge is a function of the institute or center) (E)
—People participating in seminars (E)

Outcome Measures:
—Journal publications, by type of journal (E)
—Books, monographs, or pamphlets published, by publishing firm (E)
—U.S. patents awarded (E)
—U.S. copyrights registered
—Awards and citations received for scholarly and artistic work and technological developments and applications (E)

2.2 INDIVIDUAL AND PROJECT RESEARCH

Beneficiary Group Measures:

—Faculty who conducted research of merit as determined by peer group (SP)

—Faculty successful in attracting additional funds for research from outside sources (C)

—Dissertation-stage graduate students who conducted on-campus thesis research (SC)

—Organizations and people utilizing or applying the resultant knowledge

Target Group Measures:

—Faculty interested in submitting research proposals of merit as determined by the judgment of peers (SP)

—Faculty interested in submitting research proposals that require "seed money" to attract additional funds from outside sources (C)

—Dissertation-stage graduate students who presently do not have financial aid and wish to do on-campus thesis research (SC)

Activity Measures:

—Activity measures listed under subprogram 2.1

Outcome Measures:

—Outcome measures listed under subprogram 2.1

3.0 PUBLIC SERVICE PROGRAM

3.1 COMMUNITY EDUCATION

Beneficiary Group Measures:

—Community groups that participated in noncredit instruction services of the institution, by type of group, such as socioeconomic groups, common-interest group (SP)

—Community people who participated in noncredit instructional courses offered in conjunction with a disciplinary degree-credit program (C)

Target Group Measures:

—Intended community population other than matriculated students desiring noncredit instruction services that are not offered by other institutions serving the community, by type of target group, such as socioeconomic group, common-interest group (SP)

—Intended community population wishing to participate in non-credit instructional courses offered in conjunction with a disciplinary degree-credit program (C)

—An established proportion of the community that will enable the institution to offer noncredit courses on a self-supporting basis (SC)

Activity Measures:

—Courses offered, by target group (SC)

—Course enrollment, by target group (E)

—Weekly faculty contact hours, by instruction type (E)

—Weekly student hours, by instruction type (E)

—Course hours offered (E)

Outcome Measures:

—Students completing course as a percent of those originally enrolled (E)

—Certifications or licenses granted, such as real estate licenses (E)

Appendix 4

BUDGET PREPARATION MODELS

It is important to note that all of the following budget preparation models can be used with any budget process, including program budgeting. The most appropriate model depends upon the situation. However, in any budget situation and at every university, it is imperative that a systematic budgeting process be underaken.

1. **Incremental Budgeting**

   Traditionally, budgets have been developed almost solely on an incremential/line item basis.

   This model assumes the continuation of present programs and proposes incremental changes. The increases (and possibly decreases) become the focus of analysis. The advantages and disadvantages of incremental budgeting may be listed as follows:

   Advantages:
   a. Easy to understand. Widely accepted by boards of trustees, legislatures and other bodies.
   b. Have to start somewhere in analysis. There is much to be said for focusing on increases. Can devote much time on a very important part of the budget.
   c. Easy to prepare budget.

   Disadvantages:
   a. Incremental budgeting has a "bad" connotation.
   b. Not forced to justify old programs. Irrelevant programs are not el minated.
   c. Very much politically oriented.
   d. Not practical in periods of declining income.

2. **Open-ended budgeting.**

   In this model, cost centers submit budget requests at wha' ever level the unit thinks appropriate. The central budget office or senior administrative officers adjust the budget to meet the required limitations of resources. This is usually done in negotiation sessions.

   The advantages and disadvantages of open-ended budgeting appear to be as follows:

   Advantages:
   a. Feeling of freedom. People can express what they want.
   b. Easy to prepare budget documents.

   Disadvantages:
   a. Administrators developing departmental budgets are not faced with hard decisions.
   b. Budget requests are almost always incompatible with resources.
   c. Difficult to produce information needed for comparative evaluation of programs.
   d. Decisions are often made on a political basis.
   e. Generally takes two or three "budget rounds" to get the request in line with available resources.
   f. Raise expectations too high.

APPENDIX 4

3. **Zero-base budgeting.**

The central concept of this model is complete and simultaneous evaluation of all programs. A zero-lose budget is closely related to an open-ended budget. The difference is primarily semantics, in that an open-ended budget is primarily associated with a traditional line item budget. Whereas, a zero-based budget is associated with program planning and budgeting. The apparent advantages and disadvantages of zero-lose budgeting are:

Advantages:

a. Politically sound.
b. Theoretically insures complete justification of programs.
c. Is commonly associated in the literature as a vital characteristic of program budgeting. (Note that this is not true for the MIP Budgeting Manual).
d. Enables an administrator to describe all the programs he would like.

Disadvantages:

a. Workload is tremendous—requires volumes of paper, and lots of time.
b. In actual practice little attention is focused on all the programs. Analysis is focused on increases.
c. Doubtful that zero-based budgeting is practically possible.

4. **Quota Budgeting.**

In this model cost centers are given a control figure and then requests to develop a budget based on this allotment. Control figures may be based on a dollar increase or decrease, percentage increase or decrease, last year's budget etc. The control figures are generally arrived at by the Finance Office and communicated through the Office of the President. Some of the advantages and disadvantages to consider in quota budgeting are as follows:

Advantages:

a. Cost centers can determine the total budget at an early date.
b. Administrators generally have flexibility to make decisions within control totals.
c. Elimination of unrealistic budget requests.
d. Entire university community is aware of the overall budget picture as reflected by quota figures.
e. Mitigates the affects of policies.
f. Budget can generally be prepared with "one round."
g. Process is well controlled.
h. Minimizes the amount of paper work.

Disadvantages:

a. Tendency to base the new budget almost entirely on the old one.
b. Central administrators must decide what support level will be allowed for various cost centers. Sometimes this decision is made on an opinion basis.
c. Associated with formula budgeting. ("The rich get richer.")
d. Quotas are generally placed on line items and not programs.

5. **Alternative level budgeting.**

This model requires that several alternative budget levels (generally two or three) be prepared. The budget levels are generally designated by the administration. (For example, 10% below present budget level, 5% more than present budget level, 15% more than present budget level.)

Advantages:

a. Good method of obtaining extensive program evaluation and clarification of program priorities.
b. Provides fuller information for central budgetary planners.
c. Offers alternatives for decision makers.
d. Makes use of the judgment of personnel at the operating levels.
e. Forces administrators to be cognizant of program priorities.

Disadvantages:

a. May be unrealistic if it is known that income is to be down.
b. Analysis will generally concentrate on the most likely level.

c. Much work is involved in preparing various levels.
d. Central planning agency must set budget levels.
e. Preliminary hypotheses about the marginal utility of programs must be established.
f. Much uncertainty as to what level might be funded.
g. Hurts morale in that the person preparing a budget knows that as a general rule only one level will be examined and the other levels will represent wanted time.

6. **Expenditure Classification Model.**

This model combines features of several budget models. First, last year's budget is the starting point. Second, the organizational unit is "forced" to eliminate X% of Y dollars of old programs. Third, specific categories of "fixed", "semi-fixed" and "variable" increases and decreases are classified and defined for budget purposes. Fourth, new budget items are identified and fifth, items that are to be transferred to another program are identified.

a. **Decrease of low priority programs.** Show how you would eliminate X% of last year's budget.
b. **"Fixed" Increase or decrease.** Something a department has no control over. "Fixed" must be defined by a central office. Examples might be: mandatory Civil Service increases, retirement contributions (SPERS, PERS).
c. **"Semi-Fixed" Increase or Decrease.** Something a department has little control over. Examples might be, an inflation factor, wage and price rollbacks, Civil Service step increase.
d. **"Variable" increase or decrease.** An expenditure that a department head has control over. Again, the term "variable" must be identified and agreed upon prior to budget preparation. Examples of variable increase or decrease might be: cutback of personnel, new positions for current programs, supply increases, equipment decreases, etc.
e. **New budget items or an item no longer budgeted.** For example, fees waived, insurance, workmen's compensation, capital improvements, etc.
This category provides for a reasonable method to designate a new budget item, without being defensive of the budget increase.
f. **Transfer of current budgeting responsibility.** This is designated as an ongoing program that is being budgeted in a new organizational area. For example, a program might be transferred to an academic department from a non-academic area of the transfer might be inter-university. Again, this category from one department to another should allow for a smooth transfer of budget responsibility without being defensive.

An expenditure classification budget model can be adaptable to either a program budget format or a line item-department by department budget. A key item in the model is to identify and agree on the meaning of the expenditure categories before the budgeting process begins.

The advantages and disadvantages of an expenditure classification model are as follows:

Advantages:
a. Gives a clear picture of the budget.
b. Can focus analysis on programs.
c. Provides a rational basis for explaining increases and decreases.
d. Offer alternative to the decision maker.
e. Budget priorities can easily be established.

Disadvantages:
1. A lot of work involved.
2. Somewhat arbitrary decisions must be made on the classification of expenditures. Must be complete agreement with all the units affected by the budget.

Appendix 5

EXAMPLE OF MANAGEMENT BY OBJECTIVES AND EVALUATION

To illustrate evaluation management by objectives let us assume that a program manager (e.g., dean of a graduate school) and his superior (e.g., vice president for academic affairs) agree upon the following objectives.

1. Operate a balanced budget for the fiscal year.
2. Reduce Ph.D. course offerings by 5% by the end of the fiscal year.

Let us now examine each objective.

1. OBJECTIVE — OPERATING A BALANCED BUDGET FOR THE FISCAL YEAR.

If we review the requirements of this objective, we would note the following:

(1) A balanced budget would relate to the goal of operating the university on a sound financial basis.
(2) The objective is measurable.
(3) The objective would apply to the graduate school and its operating budget.
(4) The objective can be measured by a budget report.
(5) The criteria for evaluation is whether the budget is in balance at the end of the fiscal year.
(6) The objective will be expected to be attained under any conditions unless a variance or exception has been approved by the vice president for academic affairs and the budget officer of the university.
(7) The time period for achievement will be the end of the fiscal year. However, the objective will be evaluated on a monthly basis.

2. OBJECTIVE OF REDUCING PH.D. COURSE OFFERINGS BY 5% BY THE END OF THE FISCAL YEAR.

Observations are as follows:

(1) This objective would relate to a goal of eliminating courses which are irrelevant and have very little student demand.
(2) The objective is measurable.
(3) The objective would apply to all the Ph.D. course offerings in the university.
(4) The objective can be measured by a number count and a percentage calculation.
(5) The criterion for evaluation is 5%.
(6) The objective will be expected to be attained under any conditions unless a variance or exception has been approved by the vice president for academic affairs.
(7) The time period for achievement is one (1) fiscal year with quarterly review.

In the foregoing examples, the evaluation process would consist of the dean of the graudate school and the vice president for academic affairs comparing results with the preestablished objectives.

Appendix 6

SAMPLE BUDGET CYCLE & TIMETABLE

	1973-74 BUDGET		1974-75 (AND PERMANENT) BUDGET	
	PROGRAM BUDGET	**ORGANIZATIONAL BUDGET**	**PROGRAM BUDGET**	**ORGANIZATIONAL BUDGET**
1972: November	1. Set guidelines (incl. all-university salary considerations)			
December	2. Distribute Submittal Forms			
1973: January	3. Depts. prepare budget			
February	4. Deans & VP's approve Submittals	9. Distribute Submittal Forms and Instructions (incl. salary considerations) 10. Depts. prepare budget		
March	5. Budget Office process Submittals	11. Deans & VP's approve Submittals (incl. salary considerations)	1. Set guidelines	
April	6. President & appropriate review boards approve budget	12. Budget Office process Submittals	2. Distribute Sumbittal Forms	
May	7. Budget Office finalize budget	13. Budget Office finalize Budget 14. President approve budget	3. Depts. prepare budget	
June	8. Budget presented to Board	15. Board approve budget	4. Deans & VP's approve Submittals	
July			5. Budget Office process Submittals	
August			6. President & appropriate review boards approve budget (incl. all-university salary considerations)	

September			7. Budget Office process changes to budget	
October				
November			8. President & VP's finalize budget (based on revised estimates)	
1973: December			9. Budget Office finalize budget	
1974: January			10. Budget presented to Board	11. Distribute Submittal Forms and Instructions (incl. salary considerations) 12. Depts. prepare budget
1973: February				13. Deans & VP's approve Submittals (incl. salary considerations)
			1. Set guidelines for 75-76	14. Budget Office process Submittals
1973: March			2. Distribute Submittal Forms for 75-76	15. Budget Office process Submittals
1973: April			3. Depts. Prepare 75-76 budget	16. Budget Office finalize budget 17. President approve budget
1973: May			4. Deans & VP's approve Submittals for 75-76	18. Board approve budget
1973: June			5. Etc.	

Appendix 7

PROGRAM BUDGET PROFILES (Sample Data)
1973-1974

Programs	Student FTE	Faculty FTE	Stud/Fac FTE Ratio	Budgeted Expend Per Student FTE	Average Annual Faculty Comp.	Student Credit Hours Per Faculty FTE
I. INSTRUCTIONAL						
General Studies	11,165	260	43-1	$ 571	$12,660	645
Technical Ed.	1,252	44	28-1	813	12,660	420
Bacc. Gen'l	6,816	238	29-1	1,241	16,352	435
Bacc. Prof.	3,348	156	21-1	2,049	16,352	315
Masters	2,084	116	18-1	3,439	20,045	270
Doctoral	1,092	77	14-1	5,890	24,792	210
Medical	633	59	11-1	10,789	24,792	165
II. RESEARCH						
Sponsored	—	340	—	—	21,000	—
All Other	—	170	—	—	17,500	—
III. PUBLIC SERVICE	—	40	—	—	10,000	—
IV. SUPPORT: INSTR. DIVISIONS	—	40	—	—	8,900	—
Student Counseling	—	40	—	—	9,000	—
Learning	—	80	—	—	23,000	—
Dept. & College Adm.	—	40	—	—	9,000	—
Other Univ. Act.						
Summary (Excl. Spon. Research)	26,390	1,190	16-1	$ 1,634	$16,222	240
(OBR MODEL)	—	(1,575)	(17-1)	$ (1,457)	$(17,000)	(255)

Programs	Cost/Student FTE Budgeted	Cost/Student FTE OBR Model
VI. SUPPORT: NON-INSTR. DIVISIONS		
Instr. Services	$ 21	$101
Libraries	98	125
Student Services	99	100
Gen'l Exp.	76	83
Plant Oper	290	305
Admin.	104	83
Auxiliaries	418	—
Computer	103	—
VII. Student Aid	194	—

Appendix 8

BRIEF DISCUSSION OF ANALYTICAL SERVICE AND TOOLS PROVIDED BY NATIONAL CENTER FOR HIGHER EDUCATION MANAGEMENT SYSTEMS AT WICHE (NCHEMS—WICHE)**

Under the direction of Dr. Ben Lawrence, NCHEMS has three general goals. They are (1) to improve institutional (college, university, etc.) management, (2) to improve statewide coordination of higher education, and (3) to improve decision-making processes at the national level.

To achieve these goals, NCHEMS is designing, developing, and helping with the implementation of systems for planning and management. These systems are for use on all levels of higher education.

Twenty-seven programs comprise the NCHEMS division. And as the name implies, NCHEMS does not focus its operation only on the 13 Western states; it reaches out to all 50 states. By latest count in January, 1974 some 800 institutions were participating.

The principal advisors of NCHEMS programs are the people affected by them. They include administrators, faculty, members of governing boards and coordinating councils, students, legislators and others.

The NCHEMS programming is divided into two divisions: Research and Development, and Applications and Implementation.

Here are a few examples of the many NCHEMS activities during 1972.

Study at California State University, Fullerton. NCHEMS conducted a five-month study of the comprehensive use of its management tools at a single university. It was a first. And it was a success. The study provided a number of things. The NCHEMS tools work well individually, and they also complement each other when used together. Further, the use of NCHEMS tools has the potential to enhance the university's internal planning and its preparation of external budget and resources requests. Principal tools used were the Resource Requirements Prediction Model, Student Flow Model, and Cost Finding Principles (See p.p. 9111).

NCHEMS National Assembly. This was a first, too. Some 700 higher education administrators from across the country met in Denver last Fall to see first hand the NCHEMS operation and explore a number of management questions. Assembly participants were particularly interested in two key issues: (1) Confidentiality versus full disclosure of information amassed by the new, computerized management system, and (2) the problem of information exchange among higher educational institutions, using the common data elements being developed by NCHEMS.

Fourth Annual National Invititational Seminar on Higher Education Management. Here, too, the topic was management. But the key to last Fall's meeting in Washington, D.C., was the opening of communication lines. Leaders and spokesmen for traditional higher education (colleges, universities, etc.) met, began to talk and trade ideas with leaders of the rest of post-secondary education (proprietary, vocational, military, corporate, etc.). The seminar was cosponsored by NCHEMS, American Council on Education, Education Commission of the States, State Higher Education Executive Officers, and Center for Research and Development in Higher Education, Berkeley.

Forecast of Change in Post-secondary Education. This NCHEMS panel study predicting the future of higher education received national press coverage. The six-month study used 385 panelists in a five-round survey, and they made a total of more than 100 predic-

APPENDIX 8

tions. According to the panel, among important and highly likely changes were growth of vocational programs, more attention to social problems, increase in faculty collective bargaining, close scrutiny of higher education budgets, and increased access to higher education for all.

THE FUTURE. In coming months, NCHEMS will focus special attention on higher education management at the state and national level. This does not mean that there will be any slowdown in effort on institutional programs. But broad-based programs, such as Information Exchange Procedures and Cost Finding Principles, will get more attention.

Also slated for special attention is NCHEM's National Planning Model. This prototype model, which is still in the testing phase will attempt to simulate the reactions of the student and institutions to various alternative federal funding policies.

CURRENT NCHEMS PROJECTS

Cost Finding Principles

To develop procedures for conducting cost analysis in institutions of higher education. These procedures will define the methodology for identifying, distributing, and allocating cost information to the programmatic activities of institutions of higher education.

Data Element Dictionary, Second Edition

To develop a standard set of data element terminology used by the various NCHEMS products. First edition completed.

Departmental Management System

To develop a set of basic tools that a departmental chairman can use in carrying out his prescribed responsibilities. Such responsibilities include allocation of resources, maximum utilization of those resources, management of personnel, writing and/or approval of research projects, projection of departmental growth, initiation of public services projects, determination of the impact of adding a new major or minor program within the department.

Resource Requirements Prediction Model

To develop and validate a set of generalized computer routines (a model) designed to aid institutional managers in rapidly determining the future resource implications of alternative policy and planning decisions.

Resource Utilization Analysis

To develop techniques that will aid institutions in more effectively utilizing the resources available to them.

*Space Analysis Manual

To compile a series of (institutional level) methods for evaluating the current capacity of building facilities, managing the use of space, and projecting buliding space requirements.

Statewide Data Elements

To identify and define explicitly those data elements that are required for statewide planning purposes. This activity will supplement the activities of the Second Edition Data Elements Dictionary Project by developing a publication (section) dealing exclusively with state-related data elements.

Statewide Higher Education Resource Prediction Model

To develop a computer simulation model that will facilitate estimating resource requirements for higher education on a statewide basis.

Statewide Planning

To conceptualize the problems of state level planning and decision makers from the perspective of modern management principles. As the conceptualization evolves, attention will shift to determining the need for a feasibility of specific activities and tools for planning and management at the state level.

Statewide Program Structure

To develop a program structure designed to serve as the basis for data collection and analysis required to support higher education planning and management at the state level. This structure will also serve as the framework for the development of generalized analytical models designed specifically for use at the state level.

Statewide Student Flow Model II-A

To extend the outcomes of the initial, institutional based, Student Flow Model Project (SEM I-A) to the problem of student movements between institutions.

Student Flow Analysis

To develop and publish a manual describing various procedures and statistical techniques that may be applied to the problem of analyzing student flow patterns and the projection of student preferences.

Student Flow Model I-A

To develop a computer-based simulation model that utilizes the institution's historical experience of student flow (i.e., structural characteristics) to estimate future enrollment patterns categorized by student levels and field of study (major).

Student Flow Model Research

To develop analytical models that will aid in predicting student enrollments and in describing student progression through post-secondary education.

Training and Implementation

To promote the adoption and implementation of NCHEMS Management tools and techniques in institutions and agencies throughout the higher education community.

Visiting Professionals Training Program

To provide the opportunity for institutional or agency representatives to obtain a full understanding and working knowledge of NCHEMS developmental work.

Facilities Inventory Classification Structure

To revise and update the Federal Higher Education Facilities Classification and Inventory Procedures Manual in accordance with experience gained from using the current manual and with recent developments in higher education planning and management.

Faculty Activity Analysis Manual

To develop a manual that provides guidelines to institutions wishing to undertake analysis of faculty activity. Included within this manual will be recommended procedures for various analytical studies and guidelines for data collection.

Faculty Activity Analysis Procedures

To develop a manual that describes a standard methodology for the categorization of faculty effort and the distribution of faculty effort to the programs in an institution of higher education (as represented by the Program Classification Structure).

*Federal Financing for Higher Education

To develop viable procedures for providing federal financial support to students, institutions, and/or states that are consistent with the needs of higher education, promote the goals of higher education, and provide consistent and productive incentives for higher education.

Future Planning and Management Systems

To ensure that concepts, tools, and procedures will be available to assist higher education decision makers in the future. It will develop a basis for future planning and management systems in higher education and attempt to ensure that management tools and techniques will be relevant to the changing structures, responsibilities, and trends in higher education.

Glossary

To produce a document that summarizes the definitions of the derived data elements (i.e., those data elements arrived at through combination or manipulation of the basic data elements) and other basic terminology used by the various NCHEMS products.

HEGIS VIII

To assist the National Center for Educational Statistics (NCES) in determining user requirements for educational statistics. This purpose is to be achieved through the mechanism of a conference.

Higher Education Finance Manual

To determine the financial data concerning higher education necessary for planning, budgeting, and reporting and to design recommended procedures for collecting and arraying such data for the Higher Education General Information Survey (HEGIS).

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Information Exchange Procedures

To define the conventions by which data are to be aggregated and arrayed for exchange among those institutions and agencies desiring to exchange such data as an NCHEMS participant.

*Manpower Accounting Manual

To provide a comprehensive and systematic set of categories whereby an institution's assignments of manpower, include the faculty, may be identified with occupational activities and institutional functions.

*National Foundation for Post-secondary Education

To do a planning and management analysis of the proposed National Foundation of Post-secondary Education. This analysis is to serve as background for the planning group and director of the National Foundation.

National Planning Model—Phase II

To develop a national model to assess the impact of federal programs in attaining national goals and to evaluate alternative national strategies. Research efforts will focus on analysis and documentation of the prime student demand factors, institutional decision variables, and their relationships to federal programs.

Overcomes Planning

To develop measures (indicators or proxy measures) of the outcomes of higher education and to incorporate these measures in higher education planning in such a way as to make them operational useful.

Program Budget Estimator (PROBE)

To develop an activity-based, department-oriented simulation model to aid in the application of program budgeting to higher education.

Program Budgeting Manual

To develop generalized procedures and guidelines for establishing a program budgeting system within an institution of higher education.

*Program Classification Structure

To develop a program structure that will provide a standard means of identifying, organizing, and describing the activities of higher education. The PCS is intended to provide a mechanism that will facilitate the organization of data for planning and analysis.

Program Measures

To identify and describe the quantitative indicators that will serve to measure the resources and activities associated with the program elements as defined by the Program Classification Structure.

*Project completed.

**Sources of information for this appendix are "WICHE Annual Report 1972, p.p. 14-15 and National Center for Higher Education Management Systems at WICHE Director's Annual Report 1971-72, p.p 16-17."

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Glossary

A-21 Rate — The overhead rate determined by principles defined in the Office of Management and Budget Circular No. A-21.

Academic Support Program — A support program consisting of those program elements that directly assist the academic functions of the institution.

Accrual Basis — The basis of accounting and reporting under which revenue are reported when they become due, even though they are received in a subsequent fiscal period; similarly, expenditures for the cost of all materials received and services rendered to an institution are reported although payments for them may not yet have been made as of the date of the financial report. The accrual basis is contrasted with the cash basis in which items are reported as revenues and expenditures only when cash is received or made available to an institution, and when it is disbursed. The terms "revenues" and "expenditures" are used in the accrual basis of accounting and reporting, and the terms "receipts" and "disbursements" in the cash basis.

Activity — A phase of work within a program that may or may not follow the organizational pattern of an agency.

Activity Crossover — A process whereby the activities supported by the expenditures recorded in a fund accounting system are matched with the same activities associated with a program classification structure.

Agency or Department — One of the departments, offices or institutions in the State of Ohio government. An independent organizational entity in state government.

Agency Funds — The funds that have been received by the institution to be held and disbursed on the instructions and behalf of the person or organization from whom they were received.

Aims — Descriptive statements of that which is to be achieved in programs. They are generally broad statements and not always quantifiable.

Allocation of Resources — The process of assigning personnel, materials, equipment and space to specific programs.

Allocation Parameter — Institutional statistical data which serve as a proxy measure for actual resource utilization.

Allotment — An authorization to spend or obligate a fixed sum of money during a specified period of time or for a specific purpose. It is established by the Department of Finance under a delegation of power authorized in an appropriation act.

Allotment Unit — Any organizational unit of state government to which an allotment is made. Because of the different organizational patterns between departments or other agencies, an allot-

GLOSSARY

ment unit may represent a complete department, a division, an institution or one or more functional groupings identified as a program or activity.

Alternatives — Presenting a choice of plans.

Amortization — Reducing a debt through stated, periodic payments of principal and interest. Thus, an educational institution what has borrowed money and issued bonds has a plan for the amortization of the debt.

Annuity Funds — The funds acquired by the institution under plans by which it obligates itself to distribute fixed annuities, based on the value of the gifts, to the donors of the gifts during their lifetimes, and possibly to one or more survivors during their lifetimes.

Appropriated Current General Fund — The portion of current general funds that has been set aside for special operating purposes as a result of specific designations by the institution's Administration or Governing Board.

Appropriation (1) — A sum of money authorized by the state legislature to the institution.

Appropriation (2) — A fixed amount of spending authority granted by the legislature to an appropriation unit, describing the maximum amount of money available for a specified purpose, and period of time conditioned upon the availability of supporting revenues.

Appropriation Account — An accounting record established to record an appropriation item and the commitment and expenditure of an amount of appropriation.

Appropriation Item — A single appropriation, usually within an appropriation unit. There are five classes of appropriation items in the general appropriations bills. These are Operating Expenses, Special Purposes, Subsidy, Rotary and Capital Improvements. Each capital improvements project in the capital improvements bill is an appropriation item.

Appropriation Unit — An organization unit or a particular function or activity for the support of which an appropriation, or series of appropriation items, is made.

Assignable Square Feet — The sum of all areas on all floors of a building assigned to, or available for assignment to, an occupant, including every type of space functionally usable by an occupant (excepting custodial, circulation, and mechanical areas).

Audit — The examination of documents, records, reports, system of internal control, accounting procedures and other information to determine the propriety, legality and mathematical accuracy of transactions; to ascertain whether all transactions have been recorded; and to determine whether transactions are accurately reflected in the accounts and in the financial statements drawn from them in accordance with generally accepted accounting principles.

Auxiliary Enterprises — An entity that exists to furnish a service to students, faculty, or staff, and which charges a fee that is directly related to, although not necessarily equal to, the cost of the service. The general public may incidentally be served in some auxiliary enterprises. Examples are: residence halls, food services, student stores, athletics, parking lots and garages.

Average Cost — The total cost attributed to a cost center divided by the total number of units of output produced by that cost center. Also referred to as unit cost.

Balance of Funds — A statement showing the financial position of an institution at a given time, disclosing assets, liabilities and fund balances. In college and university accounting, the balance sheet should set forth the assets, liabilities and fund balances of each fund group in balanced sections.

Benefits — Useful or lucrative returns which accrue to an individual, group or society.

Biennium — A period of two fiscal years. For example, biennium 1972-73 is for fiscal year 1971-72 and fiscal year 1972-73.

Bond — An instrument of indebtedness.

Bonds — General Obligation — Bonds sold by the state, only after approval by a vote of the people. Such bonds are debts of the state.

Bonds — Revenue — Bonds sold by the state to be retired from a specific source of revenue. Such bonds are not debts of the state.

Budget — A statement of proposed expenditures for a fixed period or for a specific project, or program, and the proposed means of financing the expenditures.

Buildings — A component of an institution's assets which refers to facilities permanently affixed to land and the remodeling of such facilities, including the associated heating systems, electrical systems, fixed equipment, sewers, sidewalks and driveways, within five feet of the building.

Campus Plan for Physical Development — One of the three major components of the Institutional Plan. A document which outlines the land and educational facilities necessary for the educational program.

One part of the Campus Plan for Physical Development is devoted to overall planning considerations, such as goals and objectives, land use, location of buildings, circulation patterns of vehicular traffic, etc. A second part of the document is subdivided by a plan for:

(a) New land and buildings
(b) Land-building modifications and renovations

All the physical needs for the Campus Master Plan are ranked in order of priority with an appropriate timetable. These priorities and timetables often change because of funding limitations.

Capital Cost — The valuation placed upon the services provided by land, buildings and equipment owned and utilized by an institution during any time period.

Capital Improvement — Any public improvement costing $25,000 or more per project, specifically the purchase of lands and buildings, or the construction, reconstruction, rehabilitation or conversion of buildings or other structure including permanent fixtures and original equipment and furnishings.

Capital Plan — Capital Appropriations and Expenditures Budget — A plan of how income and expenses will be acquired and utilized for the Campus Plan for Physical Development. This Capital Budget is generally based on a long-term Campus Plan for Physical Development and is a plan to use capital funds for top priority projects. The Capital Budget is generally prepared for a two-year period and a six-year period. Funding from the state is generally known for the two-year capital budget, but not for the six-year plan.

The Current Operating Budget and the Capital Budget should be jointly considered for approval because of their effect on each other.

Carry-over — To hold over a cost center's (e.g., department) budget balance or deficits to a subsequent budget period.

Cash Basis — The basis of accounting, in contrast with the accrual basis under which revenues are accounted for only when received in cash, and expenditures are accounted for only when paid.

GLOSSARY

Continuing vs. One-time Needs — Continuing needs are of a recurring nature such as personnel, space and equipment over a long period of time. One-time needs are of non-recurring nature such as a special study, or grant.

Continuing vs. One-time Resources — Continuing resources are of a recurring nature such as student fees. One-time resources are non-recurring nature such as a special purpose grant.

Contract Encumbrance Record — An accounting form used primarily for the encumbrance of appropriations in the purchase or rental of land or buildings and for contract services involved with capital improvements and purchased personal service.

Contact Hours — The actual time of student and teacher in class, lab, or other organized activity.

Contractual Commitment — An obligation in the form of an order, signed contract or similar item which will become payable when the goods are delivered or the services rendered.

Costs — Resource utilization expressed in dollars and cents.

Cost Accounting — An expanded and ongoing phase of the general or financial accounting system that provides management promptly with unit cost information which can be used to interpret expenditures incurred in the operation of the business.

Cost Aggregation Structure — A specific aggregation of the activities within the program identified in the Program Classification Structure to a level which results in costs centers containing relatively homogeneous activities.

Cost Analysis — The determination of unit costs for programs, activities, processes, etc. It takes into consideration the resources directly and indirectly used in the program being analyzed. "Unit costs" implies the use of an output indicator to which costs can be related; e.g., weighted student credit hours, student contact hours, FTE, degrees awarded, cost per square foot, etc.

Cost Category — A class of expenses representing a type of resource utilized. The major categories of cost for Cost Finding Principles are salaries and wages, supplies and expense, and capital assets.

Cost Center (1) — A unit, group, or subdivision of an organization or process used to segregate and distribute income and expenditures to support a principal purpose.

Cost Center (2) — The basic unit in the cost aggregation structure. For cost finding purposes, the cost centers are program elements (or aggregations thereof) identified in the Program Classification Structure to which costs can be assigned. Cost centers may be at the sub-program, program category, program sub-category, program sector level of the PCS.

Cost — Direct — Direct costs are those that can be identified specifically with a particular cost objective. These costs may be charged directly to the grant contract or program.

Cost Finding — An analytical process periodically used in lieu of a formal cost accounting data as well as other data available within the institution in order to arrive at unit cost information for all activities conducted by the institution.

Cost — Indirect — Indirect costs are those incurred for a common or joint purpose benefiting more than one cost objective and not readily assignable to the objective specifically benefited. Examples of this would be purchasing, accounting, etc.

Credit — A reduction in the amount of an obligation usually evidenced by a purchase order alteration or credit encumbrance or by a credit memo which is offset against the payment of a current or future obligation.

Cross-Allocation — A method of apportioning costs among programs which places no restrictions on the interactions between any two programs in the production process. The distinct line between primary and support programs is blurred because any program may support another and at the same time produce output for final demand. Also referred to as simultaneous allocation.

Crossover — See Activity Crossover.

Crosswalk — The procedure by which the costs for objects or expenditures are distributed to programs.

Current — When used in connection with funds, the operating funds as distinguished from other funds when used in connection with budgets, the present fiscal period as contrasted with past or future periods.

Current Auxiliary Enterprises Funds — The assets and liabilities resulting from, and the funds available for the operation of the institution's auxiliary enterprises.

Current Expenditures — Expenditures made from current funds.

Current Funds — The funds which are available for current operations of the institiution.

Current Funds Expenditures — Expenditures for current operations made from current funds.

Current Funds Revenues — All receipts and accruals of unrestricted current funds and of restricted and designated current funds expended during the current fiscal period.

Current General Funds — Unrestricted funds which are available for any current operations as distinguished from current restricted funds and current auxiliary enterprises funds which are available only for certain purposes. The classification includes the appropriate current general funds which have been set aside for special operating purposes.

Current Income — The unrestricted appropriations, fees, gifts, investment earnings, etc., accrued by the current general fund, plus an amount equal to the portion of current restricted funds expended during the period.

Current Operating Budget — A plan of how current income and expenses will be acquired and utilized to support the Educational Plan. The Current Operating Budget is generally for a one or two-year period and is detailed in nature.

Current Operating Expenses — See Operating Expenses.

Current Restricted Funds — The funds available for current operations only in compliance with the restrictions specified by the contributor or grantor.

Data Base — A collection of discrete items of information, called data elements, which describe specific systems components; e.g., the data elements which describe students, faculty, the planning process, the budget, etc.

Data bases have certain characteristics which must be continuously evaluated to determine their quality; e.g.,

(1) Completeness—Is data available to support the auditing, control and decision-making functions?

(2) Flexibility—Can data elements be easily added or purged from the files?

(3) Accuracy—Is the data in the files edited and verified on a regular basis to assure accuracy?

(4) Timeliness—Are procedures for maintaining the data bases adequate to assure the user that data is current?

(5) Accessibility—Can information be easily extracted from the data bases when it is needed?

(6) Compatibility—Can data elements from different bases (files) be pulled together for reporting purposes? Is there an interface or linkage between all files composing the data bases?

A data base may be manually prepared, computer generated or a combination of both methods.

Debit Voucher — A cash expenditure voucher which simultaneously records an obligation and liquidates it. An authorization of expenditure where no prior encumbrance was recorded. Direct agency purchase, sometimes called local purchase, not on Term Contract, and under $100.00.

Debt Service — All payments in connection with funds borrowed by an institution; for example: principal payments, interest charges, payments to sinking funds to ensure future principal and interest payments, payments to reserves to ensure proper upkeep and maintenance of the facilities, trustees' service charges, legal expenses and other items related to indebtedness.

Designated Funds — Funds designated by the institution's administration or governing board for specific current purposes as contrasted with those funds restricted by donors or sponsoring agencies.

Departmental Instruction — All direct expenditures incurred for instructional programs for students pursuing regular courses of study which lead generally to a collegiate degree wherever or whenever offered.

Departmental Research Expenditures — Expenditures for research accomplished as a part of regular instructional services and budgeted as instruction and departmental research rather than separately as research. The term excludes sponsored research and other separately budgeted research.

Departmental Sales and Charges — The incidental income of educational departments resulting from services performed, sales of publications and similar activities.

Depreciation — The process of apportioning the cost or other basic value of an asset, less salvage value (if any), over the estimated useful life of the asset in a systematic and rational manner.

Direct Allocation — A method for apportioning the costs of support programs to primary programs based on the premise that all support program activities contribute directly and exclusively to the primary programs. The costs associated with support programs are not allocated to other support programs as an intermediary step in the direct allocation process.

Disbursements — Payments in cash. In institutional accounting it refers primarily to deductions from the balances of the funds and all fund groups except the Current Funds group where the term expenditures is used.

Distribution — The process of attributing cost categories to a given activity in a manner which measures resources utilized by that activity. Within the cost finding process, all costs are distributed to cost centers prior to the allocation of support costs.

Division — One or more functionally or organizationally related units which are grouped within a specific agency or department for the purpose of exercising administrative control or collective costs.

Donor Cost Center — A cost aggregation point from which the related costs are apportioned to recipient cost centers through the use of an allocation technique and allocation parameters.

Educational Plan — One of three major components of the Institutional Plan. The Educational Plan is based upon the purposes of the institution and sets forth a documented plan in each of the following areas: instructional, enrollment, research, financial aids, public service, educational support plan, auxiliary services, and faculty and staff.

Educational Plant — Buildings and equipment used primarily for instructional research and administrative purposes, and for supporting service operations. The terms includes classroom buildings, laboratories, lecture halls, libraries, administration buildings, conference centers, gymnasiums, field houses, armories, recreation fields, heating and power plants, warehouses, shops, garages, laboratory apparatus and equipment, office machines, motor vehicles and machinery of the physical plant department, library books and livestock.

Effectiveness — The degree to which an objective is achieved.

Emergency Purchase — A purchase effected without a "formal" Invitation to bid made with "prior" or "after the fact", approval by the Division of Purchases.

Encumbrance — A reservation of appropriations made to cover a future expenditure. Posted to the records of the Department of Finance and the Auditor of State as a mechanism for certifying the availability of sufficient uncommitted appropriations before the establishment of an obligation by a state department. (See Section 131.17, Ohio Revised code)

Encumbrances — Obligations incurred in the form of orders, contracts, and similar items will become payable when goods are delivered or services rendered. This term is synonymous with commitments.

Endowment Funds — Funds which are to be invested with only the investment income available for operating or other expenses.

Endowment Income — Income from Endowment Funds or Funds Functioning as Endowments.

Equipment — A component of an institution's assets which includes moveable items having a useful life of more than one year and a cost above an institutionally defined minimum.

Evaluation — A systematic process for determining or estimating the effectiveness of a particular program or program component. Evaluation of programs is based on a comparison of actual results with planned results or objectives.

Expenditures — The cost of goods delivered or services rendered, whether actually paid or unpaid, for the operation of an institution and for additions to its plant.

Expenses — Charges incurred, whether paid or unpaid, for operation, maintenance, interest and other charges for operating purposes during the current fiscal period.

Extension and Public Services — Educational and other activities designed primarily to serve the general public as contrasted with enrolled students. Examples are correspondence courses, institutes, workshops, demonstrations, package libraries, radio and televisions stations, statewide surveys, agriculture and home economics extension programs.

Faculty — The persons employed by an institution who have all or some portion of their appointment classified as instructional assignment using the guidelines set forth in the Manual for Manpower Accounting in Higher Education.

GLOSSARY

Faculty Activity Analysis — A process by which the activities of faculty are analyzed in order to determine contributions to institutional programs. As used by Cost Finding Principles, a method for distributing salaries and wages of the instructional staff to cost centers based on the actual tasks performed by a faculty member in fulfillment of his contractual obligation.

Faculty Assignment Analysis — A process by which the assignments of faculty are analyzed in order to determine expected contributions to institutional programs. As used by Cost Finding principles, a method for distributing salaries and wages of the instructional staff to cost centers based on the expected tasks to be performed by a faculty member in fulfillment of his contractual obligation.

Faculty Contact Hour — One hour (or period) spent by one faculty member in contact with a scheduled classroom course or section. Also known as a weekly faculty contact hour.

Factors of Production — The resources utilized by an institution in achieving its stated objectives including faculty and supporting staff, supplies and expenses and capital assets.

Federal Grant — Receipts from the federal government which are deposited in noncommercial rotary funds and other operating funds.

Financial Plan — One of the three major components of the Institutional Plan. The Financial Plan is a document which outlines how financial resources will be attained and utilized to fulfill the objectives of the Educational Plan and the Capital Plan.

Fiscal Year — A twelve-month period that is not based on a calendar year. For example, a fiscal year often starts on July 1 and terminates on June 30 of the following year. Some colleges have a fiscal year of Sept. 1 to Aug. 31. Fiscal years are always referred to by the calendar year in which the fiscal year ends. For example, 1972-73 is referred to Fiscal Year (FY) '73.

Fixed Charges — Known, generally stable, recurring expenditures such as rent, insurance premiums and contributions to employee retirements.

Forecasting — To calculate or predict some future event or condition, e.g., anticipated income and expenditures, as a result of rational study and analysis of available pertinent data.

Formula Budgeting — Estimating future budgetary requirements through manipulation of quantitative data about programs and relationships between programs and costs.

Full/Complete Payment (of an Encumbrance) — An expenditure that retires a previous encumbrance in full, or, even if in an amount less than the original encumbrance, represents the last payment will be forthcoming. Code vouchers accordingly.

Full Costing — The process by which all of the resources utilized by an institution in producing an output are identified and associated with that output.

Full-Time Equivalent — The equivalent of one person who is deemed to be carrying a full load or having a full-time appointment in terms of institutionally agreed upon conventions for converting numbers of specific individuals (students or employees) to equivalent number of full-time people.

Functional Classification — The grouping of expenditure items according to the purpose for which costs are incurred. These include: instruction and departmental research, organized activities related to educational departments, sponsored research, other separately budgeted research, other sponsored programs, extension and public services, libraries, student services, operation and maintenance of the physical plant, general administration, staff benefits and general institutional expenses.

Fund — An accounting entity established to record assets designated for a specific purpose, and transactions affecting such assets.

Fund Account Number — A numeric code established to identify a fund account.

Fund Accounting — A method of recording assets, liabilities, revenues and expenditures in distinct accounting entities which are established for the purpose of carrying on specific activities or attaining certain objectives in accordance with special regulations, restrictions, or limitations; also referred to as institutional or governmental accounting.

Fund Balance (Principal of Funds) — An amount equivalent to the excess of assets over liabilities of a fund, and therefore available for the fund's specific purpose.

Fund Group — A group of funds of similar character, such as current funds, loan funds, endowment funds and funds functioning as endowment, annuity and life income funds, plant funds and agency funds.

Fund Operations Account — A discrete account for each special fund in which is accumulated the opening fund balance and all transactions during the period. The balance in this account is thus always equal to the remaining fund balance.

Funds Invested in the Irreducible Debt of the State of Ohio — Funds which have been donated to the institution and which have been deposited with the State Treasury so that only the income is available for operating or other purposes.

Funds Functioning as Endowment — Funds established to account for assets designated by the Administration or Governing Board to be invested in income-producing assets and administered as if they were endowments. (See Quasi Endowments)

Funds Held in Trust by Others — The funds held and administered by a judiciary with only the income available to the institution.

General Fee — Mandatory activity fees charged to students for various organizations. General Fees are differentiated from Tuition which is used for the Instructional Program.

General Administration Expenditures — Expenditures of the general executive and administrative offices concerned with the administration of the institution as a whole as contrasted with organizational units such as schools, colleges, instructional departments and the library. Examples are: the governing board, president, vice-presidents, dean faculties, business officer and legal counsel.

General Institutional Expenses — Expenses of offices and activities which apply to the institution as a whole except for general administration and student services. Examples are: alumini office, external audit, catalogues, commencement, interest on loans for current operations and fees for institutional memberships in organizations.

General Revenue — The statutory account within the state treasury which receives revenue not assigned for a specific purpose. General Revenue Fund can be used to support any governmental operation.

Goals — The desired end results for a program. Goals are generally set for long periods of time (e.g., ten years). Goals and objectives are often used interchangeably; however, they differ in terms of their time frame, measurability, and sequence. Goals are long-term and the end result; objectives are short-range and are steps in the direction of attaining a goal.

GLOSSARY

Governmental Appropriations — All appropriations made by the state, city, or the federal government. If any appropriations are earmarked for research or public service, they will be shown under the appropriate category.

Governmental Grants or Contracts — Amounts received from any governmental unit either as grants or for the performance of a specific contract. These amounts may be for training, research, public service, or student aid and will be shown in the appropriate section.

Gross Square Feet — The sum of the floor areas included within the outside faces of exterior walls for all stories of areas, which have floor surfaces.

HEGIS Taxonomy — A classification of instructional discipline and academic subdivisions of knowledge and training as published by the National Center for Educational Statistics.

High-Order Cost Center — One that receives a greater amount of services from other cost centers while providing relatively fewer services. High-low priority ranking of cost centers is employed in the recursive allocation technique.

House Bill Number — The consecutive number assigned to each proposed act which is introduced in either house of the Legislature. The number by which appropriation acts are identified.

Implicit Cost — A generic term used in economics to denote an estimated value when no cash payment is made that would establish an absolute value.

Income — Restricted to net income, or revenues less expenses, of an operating unit within an institution, e.g., the student store, parking garage and other auxiliary enterprises. The term also refers to the earnings on investments, e.g., income on investments.

Incremental Budgeting — Developing budgets by adding incremental dollars to the last base period (generally last year's budget).

Incremental Cost — The change in total costs which results from going from one level of output to another.

Independent Audit — An audit performed by an independent auditor, in contrast to an audit performed by an internal auditor on the institution's staff. In publicly controlled institutions, an independent auditor may be an official of the governmental body controlling the institution but independent of the executive officer of the educational institution.

Independent Operations Program — A support program consisting of those program elements which are independent of, or unrelated to, basic missions of the institution.

Input — The resources consumed when carrying out a program.

Institutional Accounting — See Fund Accounting.

Institutional Plan — A comprehensive document which outlines the Educational Plan, the Capital Plan, and the Financial Plan for the institution. Every state institution of higher education should have an Institutional Plan on file in the office of the Ohio Board of Regents.

Institutional Support Program — A support program consisting of those activities within the institution which provide campus-wide support to the other programs.

Instruction — The methodical imparting of knowledge, through an active process involving teachers and students, resulting in formal credit toward an academic degree.

Instruction and Departmental Research Expenditures — Expenditures of instructional departments, including salaries, office expense and equipment, laboratory expense and equipment and other expenses.

Instruction Program — A primary program consisting of all formal instructional activities in which a student engages to earn credit toward a degree or certificate.

Instructional Services — All direct expenditures of activities which are closely allied with the instructional programs but cannot be included under departmental instruction including the following departments: Instructional Materials, University Computer Service, Institutional Studies, Humanities Reading Program, and the Institute for Research and Training in Higher Education.

Interdepartmental Transactions — The sales and services of general storerooms and service departments and the transfer of equipment from one department to another.

Interfund Reimbursement — Amounts paid from one fund to a second fund, for goods or services provided by the second fund.

Interfund Transfer — Transfers of monies from one fund to another.

Intergovernmental Income or Revenue — Amounts received from other governments as fiscal grants-in-aid, or as reimbursement for performance of services for the paying government.

Internal Audit — An audit made on a continuous basis by persons on the staff of the business office.

Investment in Plant — A subgroup of the plant funds accounts in which is shown the total carrying, or book value of all plant properties and facilities except those real properties that are the investment of endowment and similar funds.

Invoice — Includes estimates on contracts, or a statement showing delivery of the commodity or performance of the service, or a detached statement of the work accomplished, material supplied, or labor furnished and the sum due pursuant to the contract or obligation.

Joint Product Cost — The cost incurred in association with an activity which produced outputs for more than one program.

Land — A component of capital assets which includes the building sites, parking lots, athletic fields and other real property owned and utilized by an institution.

Lapse — Funds not encumbered by close of fiscal period for which appropriated.

Libraries — All direct expenditures of the main institutional library and any departmental libraries which are supervised by the institution's chief librarian, including the expenditures for books and for the time professional library staff members, who also give instruction in library science, spend working in the libraries.

Life Income Funds — The funds acquired by the institution under plans by which it obligated itself to pay variable annuities, based on the value of the gifts and the earnings of the fund (or some variable rate), to the donors of the gifts during their lifetimes, and possibly to one or more survivors during their lifetimes.

Line Item Budgeting — A budget method on-which allotments are based on line-items, e.g., salaries, supplies, equipment, etc.

GLOSSARY

Line Item — This is a classification of income and expenditures by object codes.
For example: 090 = tuition income
100 = salary expenses

Loan Funds — The funds available for loans to students.

Long-range — Three years or more.

Long-Range Financial Plan — A general plan of how income and expenses will be acquired and utilized to support both the Educational Plan and the Campus Master Plan. It is usually projected for a period of 3-10 years and is described in less specific terms than the Current Operating Budget. Generally, more detail is provided for the first few years of the Long-Range Financial Plan; e.g., 2 biennium years, than the latter years, e.g., 3 biennium years. Thus, the amount of detail generally declines as the period of the plan increases.

Low-Order Cost Center — One that provides a greater amount of services to other cost centers while receiving relatively fewer services. High-low priority ranking of cost centers is employed in the recursive allocation technique.

Management Information System (MIS) — The configuration of men, machines and methods which supports management in the collection, storage, processing and transmission of information.

Major Activity — The level of classification used to designate the major centers of activity through which the institution operates, i.e., colleges, administrative and service offices.

Major Function — One of the five major areas (instruction and general, organized research, public services, auxiliary enterprises and student aid) in which the colleges and universities of Ohio render service.

Major Object Code — A numeric code designation which describes the broad classification of expense for which an appropriation is made, i.e., personal service, supplies, equipment, etc.

Marginal Cost — The increase in total cost caused by the production of one additional unit of output.

Minor Activity — The level of classification used to designate the subordinate centers of activity, such as academic department or auxiliary enterprise unit.

Minor Object Code — A numeric code designation which provides a detailed description of the particular classification of an expenditure, e.g., within the major object "supplies", the minor objects food supplies, forage and veterinary supplies, fuel, office supplies, etc.

Mission — The tasks or functions to be performed by an educational institution. For what purposes does the institutions exist in the areas of instruction, research, public service, etc.?

NCHEMS — National Center for Higher Education Management Systems at WICHE.

NCHEMS Costing & Simulation Techniques — Refers to techniques and software developed by NCHEMS for asking and answering "what if" questions in terms of cost. Examples of "what if" questions are:

(a) What if we increased the faculty workload 10%?

(b) What if we decreased class size to a maximum of 30 in this discipline?

(c) What if we change the faculty rank mix to add more full professors?

The techniques are used also in forecasting resource requirements for future time spans.

NCHEMS — PCS Program Classification Structure developed by NCHEMS.

NCHEMS — RRPM Resource Requirement Prediction Models developed by NCHEMS.

Net Investment in Plant The equity account in the investment in Plant subgroup of the Plant Funds accounts which shows the amount of institutional funds expended for plant assets, excluding any indebtedness against the assets.

Net Square Feet The sum of all areas on all floors of a building including hallways, custodial, circulation, and mechanical areas.

Objectives The measurable attainments or desired results set for programs over a short period of time (e.g., one year). Objectives are gnerally regarded as progressive steps toward a goal. Thus, a series of objectives should lead to one's goal.

The requirements of a written objective are:

1. It must be related to a goal;
2. Be measurable or observable;
3. Specify the method of measurement and criteria for evaluation; and
4. State the time period for achievement.

Operating Expenses Charges incurred, whether paid or unpaid, for operation, maintenance, and interest and other charges for operating purposes during the fiscal period.

Opportunity Cost A benefit foregone. The cost of any resource with alternatives uses that is committed to the production of higher education outputs.

Organized Research The activities pertaining to separately budgeted research, including but not limited to, university-sponsored, federally sponsored or commercially sponsored research.

Organized Research Program A primary program consisting of those research-related program elements established within the institution under the terms of agreement with agencies external to the institution or separately budgeted and conducted with internal funds.

Other Separately Budgeted Research Research divisions and activities, such as research bureaus, research institutes and experiment stations, as distinguished from sponsored research. The term excludes research carried on as part of the regular instructional services which is classified as instruction and departmental research.

Outputs Something produced—the product and by-products of a process, system or program.
Examples of output indicators are:
Student credit hours
Headcounts
Contact hours
Number of prepared budget reports
Number of purchase orders processed
Number of square feet of space cleaned
Number of students counseled daily (average)
Number of graduates by program

Outstanding Encumbrance That portion of posted encumbrance represented by the difference between the amount of the encumbrances and the total of expenditures to date.

Over-Run (Of an Encumbrance) An expenditure which is for an amount greater than the original encumbrance.

Partial Payment An expenditure which retires only a portion of an encumbrance and which will be followed by subsequent payments. Code vouchers accordingly.

GLOSSARY

Personal Service — Both an appropriation item and a major object, covering full-time, part-time, per diem and contracts for payments for salaries; wages, fees paid to individuals and companies for services or personnel, witness fees; prisoner and patient compensation; student stipends; PERS and other fringe benfits.

Planning — A managment process which attempts to predetermine a course of action. The planning process is characterized by a systematic consideration of goals and objectives; priorities and alternatives; identification of programs; calculation and allocation of resources, and evaluation. Planning is a continuous process and should not be categorized as either, short-range or long-range.

Plans — A course of action. A statement of the systematic program to be used to reach a goal or objective. A plan displays the inter-relationship between goals and the availability of resources to meet those goals. Plans are visible results of the planning process. Plans are referred to as short-range or long-range.

Plant — The physical property owned by the institution and used for institutional purposes, such as land, buildings, improvements other than buildings and equipment (including library books and livestock).

Plant Funds — Funds which have been contributed, designated or borrowed for the acquisition or construction of physical property used for institutional purposes.

Plant Operation and Maintenance — All plant operation and maintenance expenditures as indicated by the following departments: Administration, Janitorial Service, Repair of Buildings, Care of Grounds, Heating-Power Plant, Purchased Utilities, Campus Security, Operation of Motor Vehicles, and other, plus expenditures for fire protection, property insurance, rental of property, refuse disposal, and equipment repairs.

Policy — A premise or statement, generally broad in nature, used to guide and determine present and future administrative decisions.

Pooled Endowment Funds and/ Funds Functioning as Endowment — An endowment fund in which the fund assets have been consolidated for investment purposes.

Primary Cost Center — A cost aggregation point identified for cost finding purposes within the primary programs (i.e., instruction, research and public services) of the Program Classification Structure.

Primary Programs — That portion of the Program Classification Structure that contains the activities directly related to the accomplishment of the missions of higher education.

Priorities — Establishing the relative importance of specific activities related to the achievement of goals and objectives.

Private Gifts and Grants — Amounts received as gifts and grants from corporations, foundations, institutions, individuals or any other source other than governmental units.

Procedures — A particular way of doing things. A series of steps followed in a regular definite order.

Program (1) — A group of related resources used to achieve a goal of objective. Programs set for the output to be realized, the activities to be carried on, and the resources to be consumed over a given period of time.

Program (2) — A stratum in the Program Classification Structure hierarchy. The major institutional missions and related support objectives. The PCS is based on seven programs.

Program Analysis — The systematic examination and comparison of alternative courses of action with regard to their cost and effectiveness to illuminate the implications of each alternative as a basis for an informed decision. Program analysis is a cost-effectiveness analysis applied to specific programs.

Program Budgets — Budgets expressed in terms of programs as contrasted to organizational units or line items.

Program Budgeting — A Financial Plan that involves a systematic consideration of the following:

1. The establishment of goals and objectives of programs for specific outputs;
2. The analysis of programs and selection of alternatives and priorities;
3. A systematic consideration of the management of total resources;
4. The conversion of priority programs into dollars and cents with a commitment for a specific period of time, e.g., one or two years; and
5. The establishment of a program management system to monitor and evaluate programs. Programs are constantly evaluated to ascertain the relationship to actual results to planned goals and objectives.

Programming — The design of programs which contribute to achievement of the goals and objectives in the educational system.

Program Element (1) — The lowest level of aggregation in the Program Classification Structure hierarchy. The program element represents the smallest unique collection of resources that are output producing activities (i.e., a collection of resources, technologies, and policies which, through their integrated operation, produce goods or services that are of value to the organization because they contribute to the achievement of an institutional objective).

Program Element (2) — The lowest level of aggregation in the program structure. In this manual, we will use the term subprogram in lieu of program element.

Program Classification Structure (PCS) — A classification system that categorizes the activities of an organization according to their relationship to the organization's objectives. Reference to the publication by that name developed by the National Center for Higher Education Management Systems.

Program Evaluation — A systematic process for determining the effectiveness of a particular program or program component. Evaluation of programs is based on a comparison of actual results with planned goals and objectives.

Program Management — The supervision and coordination of programs.

Program Manager — The individual responsible for planning and designing of a specific program and the coordination of the programs' plans.

Program Measures — The quantitative indicators or resource utilization, activities and outputs associated with a program element.

Program Structure — A classification of all the activities of an organization according to programs, each of which can be related to specific goals and objectives. A program structure provides the framework for analyzing programs and subsequent decision-making regarding the allocation of resources to programs.

Public Services — The activities pertaining to medical center units, institutes and workshops, telecommunications center and other programs and facilities which are not part of the institution's continuing instructional programs, but are designed primarily to serve the public.

Public Service Program — A primary program consisting of those program elements within the institution which produce outputs directed toward the benefit of the community or individuals residing within the geographic service areas of the institution.

GLOSSARY

Purposes — Analogous to mission. What does the educational institutions exist for? What does it propose to do? Why does it exist?

Quasi-Endowment Funds — Funds which the governing board of an institution, rather than a donor or other outside agency, has determined are to be retained and invested. The term "funds" functioning as endowment may also be used to designate funds. The governing board has the right to decide at any time to expend the principal of such funds. (See Funds Functioning as Endowments)

Recipient Cost Center — A cost aggregation point to which costs are assigned from donor cost centers through the use of an allocation technique.

Recovery of Indirect Expense — Amounts received which represent a reimbursement for indirect expenses arising from organized research and public service or training projects.

Recursive Allocation — A method of apportioning the cost of support programs to primary programs based on the premise that support program activities may contribute directly to any program (support or primary) which has a higher-order ranking. Implicit to the recursive allocation technique is the ability to rank all cost centers into a high-low order with the low order cost centers being totally distributed among the higher order cost centers. Also referred to as step-down allocation.

Renewal and Replacement Funds — Funds specified by the external sources or designated by governing boards to be used for the renewal and replacement of institutional plant assets. Reported either in a separately balanced subgroup of the Plant Funds group or in a clearly identified equity account in the Unexpended Plant Funds subgroup of plant funds.

Replacement Cost — The original value of an asset expressed in current dollars. Replacement cost is calculated by applying a replacement cost index to the historical cost of an asset.

Replacement Cost Index — A ratio of current costs to original costs for a particular class of assets.

Research — Critical and exhaustive investigation or experimentation having as its aim the discovery of new facts and their correct interpretation, the revision of accepted conclusions, theories of laws in the light of newly discovered facts of the practical application of such new or revised conclusions, theories, or laws, including the training of students through such investigation or experimentation.

Reserve — Monies set aside in the budgeting process. Reserves are of two types: (1) General purpose, such as safety or contingency, or (2) Specified purpose, e.g., new programs, equipment replacement, salary increases.

Reserve for working capital — A reserve established to recognize the fact that a portion of current general funds has been utilized to finance receivables, inventories and similar items and, therefore, an equivalent amount of surplus is not available for expenditures.

Resources — Personnel, space, materials (operating support services) and equipment. Before budgetary decisions can be made, resources must be converted into dollars and cents.

Restricted Funds — Funds restricted by outside agencies or persons with regard to use. Restricted funds are to be contrasted with funds over which the institution has complete control and freedom of use.

Retirement of Indebtedness Fund — A plant fund, consisting of cash and temporary investments, in which the amounts designated for the retirement of indebtedness have been accumulated.

Revenue — Receipts of state government, including taxes, inter-governmental revenue, charges, and other revenue, contingent receipts, and interfund transfers.

Revenue Account — An accounting record established to record receipts from a particular source of income or for a particular purpose.

Revolving Fund — A fund provided to carry out a cycle of operations. The amounts expended from the fund are restored thereto from earnings, from operations or by transfers from other funds, to ensure it is always intact, either in the form of cash, receivables, inventory, or other assets.

Role — Analogous to mission and purpose.

Rotary — A fund whose income must be devoted to a special use, in accordance with provisions of law or Controlling Board action. Each rotary fund is limited in its use to a specific agency. Rotary funds are appropriated with dollar limitation.

Rotary — Commercial — A rotary fund whose primary source of income is from the sale of goods and services to other state agencies. Segregation of commercial and noncommercial rotaries avoids duplication of reporting income and expenditure.

Rotary — Operating — Funds credited to the direct support of operations out of monies received in the State Treasury from revenue received from the operating rotary.

Rotary — Reimbursement — A revenue collection account from which the General Revenue fund is reimbursed for expenses of the activity from which the revenue is derived.

Rotary — Restrictel — An operating rotary which must be alloted by appropriation item by month, by quarter, or is earmarked in some manner.

RRPM — Resource-Requirements Prediction Model. A product of NCHEMS.

Salaries and Wages — The gross cash salary of the individual from all institutional sources before deductions or exclusions, together with all staff benefits, directly and explicitly identifiable with the individual as to dollar amount and value, e.g., employer's FICA contribution, employer's contribution to TIAA-CREF or other retirement fund, employer's share of medical, hospital, accident, or life insurance premiums, and market value of goods or services provided to an employee for personal use or consumption.

Salvage Value — The sale, trade-in scrap, or junk value of an asset when it is no longer useful to an institution.

Section — A group of students assembled for instruction in a regularly scheduled meeting of a course.

Selection Criteria — Rules for judging the merits of alternative courses of action.

Service Enterprises — An entity that provides a service to the various divisions of an institution, which might be purchased from commercial sources, but which, for reasons of convenience, cost, or control, is more effectively provided through a unit of the institution. Charges to users are determined by the costs of the services rendered. Examples are print shop, laundry, repair shop and photographic shop.

Services to the Public — Those educational activities of the institution which are neither Instruction or Research as defined and which primarily serve a clientele other than the institutions' own staff and degree-credit students are conceived in this analytic framework to constitute the primary function services to the public.

GLOSSARY

Short-range — One or two years.

Simultaneous Allocation — See cross-allocation.

Source of Income — The term used to designate one or another of the types of revenue usually available to an educational institution.

Special (other) Fund — All funds other than the current general fund and the current auxiliary enterprises fund.

Standards — Something established by authority, custom, or general consent as a model or example. Generally, there are two kinds of standards — one is concerned with what is desired, the other suggests limit.

Standard Object Code — The system that is used for classifying expenditures according to that which is received in return (salaries, postage, etc.) or income according to source.

Step-down Allocation — See recursive allocation.

Student — A person registered in an institution of higher education and pursuing a course of study.

Student Aid — The income and expenditures that are specifically designated for scholarships, fellowships, loans, grants, prizes and other similar purposes.

Student Credit Hour — A unit of measure which represents one student engaged in an activity for which one hour of credit toward a degree or other certificate will be granted upon successful completion.

Student Fees — All income derived from charges to students which are not to be included as income of a specific auxiliary enterprise. These include Instruction and General fees, student service fees, non-resident surcharge fees, application or matriculation fees and other fees.

Student Services — All expenditures directly related with serving the students as indicated by the following departments: Minority Student Recruitment, Admissions Office, Campus Calendar, Dean of Students, Dean of Men, Dean of Women, Foreign Student Office, Health Service, Health Service-Medical, Career Relations, Residence Hall Coordination, Registrar, Testing and Counseling, Student Organizations, Student Activities, Student Financial Aid, Cultural Events and Ombudsman.

Student Service Program — A support program consisting of those program elements related to the institution's student body, excluding the degree-related curriculum and student records.

Sub-Function — The level of classification used to designate the various types of activities within the five major functions.

Sub-Program — A sub-grouping of programs to ensure the grouping is pertinent to planning for the accomplishment of stated objectives.

Subsidy — Monies granted from one branch of the government to another; i.e., money received by the State from the Federal Government and money distributed by the State to local governments.

Sub-Source — The term used to identify one of the many kinds of revenue available from a particular source.

Sub-Type of Asset or Liability — A further breakdown of a class of assets or liabilities used to designate location of bank, type of security, class of creditor, etc.

Supplies and Expense — All operating expenses other than salaries and wages.

Support Cost Center — A cost aggregation point identified for cost finding purposes within the support programs (i.e., academic support, student support, institutional support, and independent operations) of the Program Classification Structure.

Support Programs — That portion of the Program Classification Structure that contains those activities which are necessary or vital for the successful operation of the primary programs.

Tax Identification Number — The number used by an employer to report his Federal Tax withholdings, and used as an identification number for vendors to the state.

Term Endowment Funds — Funds which donors or other outside agencies, by the terms of the instruments of gift, have provided are to be released from inviolability to permit all or parts of them to be expended upon the happening of a particular event or the passage of a stated period of time.

Transaction Code — A numeric or alphabetic code used to identify the desired effect of a particular transaction in an appropriation account or other accounting record. The symbolic language by which an accounting document is posted to a record maintained on punched cards, magnetic tape or disc storage devices.

Transfer (1) — Movement of monies (cash or appropriation authority) between or among funds and/or items of appropriation.

Transfer (2) — The identification of the authorization by a governing board of a specific change in the use of funds, and the moving of their assets, liabilities and balances from one fund group to another; e.g., unallocated current funds transferred to loan funds; and, other funds or portions of balances of fund groups transferred to fund groups that encompass the newly authorized uses.

Transfer Payments — Funds received by the institutions from government, business and other sources which are subsequently distributed to third parties. These funds do not represent payment for services rendered by the institution.

Unallocated Appropriation — The portion of appropriation not allocated in allotment process or not expended during fiscal period.

Unallocated Balance of Unrestricted Current Funds — That part of the balance of unrestricted current funds that has not been set aside for specific purpose. It is the free and unassigned balance of unrestricted current funds available for allocation to future operating purposes or for other uses as designated by the governing board. Synonymous with the term surplus in commercial accounting, which is inappropriate in institutional accounting.

Unappropriated Surplus — That part of surplus which has not been set aside for any specific purpose.

Unencumbered Balance — A term used with reference to an annual appropriation to indicate the unobligated portion of the appropriation at any given time, and also, with reference to a quarterly allotment to mean the unobligated portion of the period's allotment.

Unexpended Balance — A term used with reference to an annual appropriation to mean the unspent portion of the appropriation at any given time, and also with reference to a quarterly allotment to

mean the unspent portion of that period's allotment. The same as unencumbered except for cash resources.

Unexpended Plant Funds — Funds specified by external sources or designated by governing boards for the acquisition or construction of physical properties to be used for institutional purposes.

Unit Cost — See average cost.

Useful Life — The period of economic utility during which an asset renders service to an institution.

Weighted Student Credit Hour — A unit of measure; a student credit hour weighted by level of instruction, e.g., Graduate = 6, General studies = 1.

WICHE — Western Interstate Commission on Higher Education.

Working Capital — A portion of the balance or unrestricted current funds set aside as a reserve to recognize the fact that a part of the unrestricted current funds assets have been utilized to finance receivables, inventories and similar items and thus are not available for allocation to other uses.

Zero Based Budgeting — Eliminating the prior budget base and developing a new budget based on new priorities and alternatives.

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